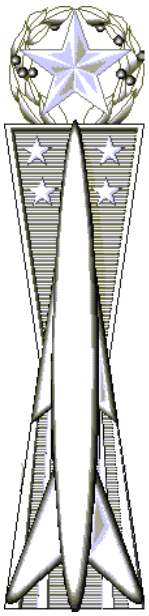
DEPARTMENT OF THE AIR FORCE
Headquarters US Air Force
Washington DC 20330-1030

CFETP 21MX
Parts I and II
2 Jul 2004

AFSC 21MX

MUNITIONS, MISSILE AND SPACE MAINTENANCE OFFICER



CAREER FIELD EDUCATION AND TRAINING PLAN

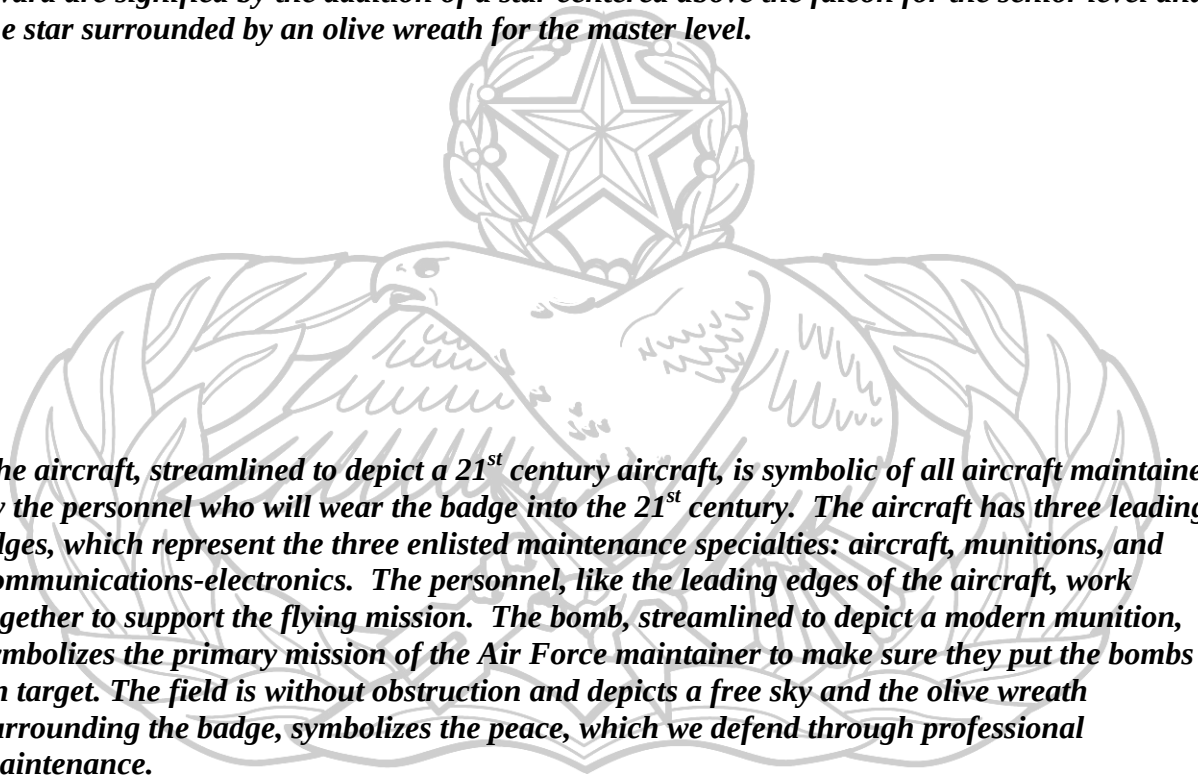
The Missile Badge Heraldry

The first distinctive missile badge was established May 23, 1958, to recognize those within the Air Force who had a direct role in the development, maintenance or operation of guided missiles. The badge was first called the Guided Missile Insignia and was authorized for those who performed duty in or were associated with the Snark, Atlas, Goose, Thor, Jupiter, Matador, Mace, Bomarc, Titan and Minuteman missile systems. In 1963, the name was changed to the Missileman Badge and three levels of expertise were established: Basic, Senior, and Master Missileman. The honor of wearing the badge went to those who completed specialized missile training. In April 1979, the name of the Missileman Badge was once again changed, this time to simply Missile Badge, deleting any reference to gender. In addition to the original missile systems, the Missile Badge is now awarded to personnel in the Peacekeeper, Air Launched Cruise Missile, Conventional Air Launched Cruise Missile and Advanced Cruise Missile weapon systems. In 1988, with the approval of the "Missile Operations Designator," a wreath encircling the Missile Badge, the original Missile Badge became a badge awarded exclusively to missile maintainers.

The original design of the Missile Badge was prepared by the United States Army Heraldic Division at Arlington, Virginia. There are four significant elements of the badge. The use of the generic missile is intentional so as to resemble no particular missile in the inventory. The badge was given an hourglass shape to signify the timeliness of the weapon systems' response capabilities. The four stars, two on either side of the missile, represent the operational domain of the missile systems, the total aerospace environment. Finally, two vertical bands beneath the missile represent a residual vapor trail left by a missile in flight.

Air Force Maintenance Badge Heraldry

The design of the falcon is a replica of the maintenance falcon located in the National Cathedral in Washington DC. The falcon symbolizes the airborne strength of the Air Force and made possible by the maintenance of aircraft, munitions, and communications-electronics equipment. In its talons, the falcon is holding a bomb and a generic 21st century aircraft. They are crossed to show the interrelationship of the career fields. The three levels of the award are signified by the addition of a star centered above the falcon for the senior level and the star surrounded by an olive wreath for the master level.



The aircraft, streamlined to depict a 21st century aircraft, is symbolic of all aircraft maintained by the personnel who will wear the badge into the 21st century. The aircraft has three leading edges, which represent the three enlisted maintenance specialties: aircraft, munitions, and communications-electronics. The personnel, like the leading edges of the aircraft, work together to support the flying mission. The bomb, streamlined to depict a modern munition, symbolizes the primary mission of the Air Force maintainer to make sure they put the bombs on target. The field is without obstruction and depicts a free sky and the olive wreath surrounding the badge, symbolizes the peace, which we defend through professional maintenance.

MUNITIONS, MISSILE AND SPACE MAINTENANCE OFFICER
AFSC 21MX CAREER FIELD EDUCATION AND TRAINING PLAN
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This document supersedes CFETP 21MX, 1 Jul 2004 and CFETP 21MX/21LX Change 4, August 2002.
OPR: 360 TRS/TTR
Approved by: USAF/ILMW (Lt Col Chris Poock)
Number of Printed Pages: 73

AFSC 21MX
CAREER FIELD EDUCATION AND TRAINING PLAN

PREFACE

1. **A highly trained, motivated officer corps** is the Air Force's key resource in meeting challenges of the future. The Munitions And Missile Maintenance Officer Career Field Education and Training Plan (CFETP) provides the framework and guidance for planning, developing, managing, and executing 21M training. This CFETP documents a "training roadmap" for 21Ms and identifies mandatory and optional skill-level training.

2. The 21M career field encompasses conventional weapons, nuclear weapons, cruise missiles, intercontinental ballistic missile (ICBM) weapon systems, and space maintenance. 21M is a maintenance AFSC and all maintenance officers, 21A and 21M, shall receive core maintenance task training and system specific training during initial qualification training. This training approach highlights fundamental Air Force Maintenance Officer skill sets that apply to any weapon system or munition. Maintenance officers obtain depth by applying skills to specific weapons/weapon systems and through the process gain valuable maintenance experience. To gain breadth in this expansive career field, officers should experience two of the following areas: conventional munitions, nuclear munitions, missile maintenance and space maintenance.

3. Force Development is designed to: link training and education opportunities to assignment experiences, connect individual goals to AF needs, invest the right education and training experience in the right officers at the right time, and to enhance leadership and officer understanding to best utilize individual officer inputs in the development and assignment process. Maintenance Force Development is focused on developing maintenance officers and includes not only 21Ms but also 21As. From a career path perspective, Force Development is best described as a rock-climbing wall. There are many ways to reach your goal, with different views, footholds, resting points, and directions. The Maintenance Force Development Team provides course vectors and developmental assignment opportunities to ensure that as you move from rock to rock you are tied to strong maintenance fundamentals and disciplines, while gaining the skills needed for the 21M career field.

3.1. Force Development affords maintenance officers opportunities to expand skills and experience through developmental assignments to other AFSCs. As an officer corps and a career field, we are only as good as our training. AETC training positions are competitive in nature and are filled with those officers who have exhibited the highest levels of system knowledge and demonstrate the ability to teach others what they have learned. In this era of manpower constraints, every position on the books is a "good job" with meaningful work associated with it. It is important for every officer to learn their job, develop a solid reputation and make a difference in the position they fill. Increased responsibility is the reward.

3.2. Each 21M should ensure a current Officer Development Plan (ODP) is submitted. This form is where individuals express career goals and map proposed future jobs desires. The ODP is forwarded to the individual's supervisor who will provide comments and forward it to the Maintenance Force Development Team who also provides feedback. Maintaining an accurate and up-to-date an individual responsibility.

4. **This CFETP** consists of two parts:

4.1. **Part I** provides information necessary for 21M overall training management. Section A explains how to use the plan. Section B identifies career progression information, duties and responsibilities, training strategies, and a 21M training and education flowchart. Section C associates each skill level with qualifications, knowledge, training, education, experience, etc. Section D indicates resource constraints in formal/unit training, i.e., funds, manpower, equipment, and facilities.

4.2. **Part II** provides a comprehensive listing of training courses and standards available to support 21M training requirements. Part II consists of: Section A Course Training Standard; Section B Training Course Index; Section C Support Material; and Section D MAJCOM Unique Requirements. At unit level, supervisors and trainers use Part II to identify, plan, and conduct training commensurate with the overall goals of this plan.

ABBREVIATIONS/TERMS EXPLAINED

Advanced Training. A formal course which provides officers who are already fully qualified in their Air Force Specialty Code (AFSC) with additional skills/knowledge to enhance their expertise in the career field. Training is for career officers at the qualified and staff level of an AFSC.

AFCFM. Air Force Career Field Manager.

AFCOMAC. Air Force Combat Ammunition Center.

AFI. Air Force Instruction.

AFIT. Air Force Institute of Technology.

BDE. Basic Developmental Education. Specific educational opportunities inside the AF to include but not limited to Squadron Officer School, and the AF Intern Program.

CFETP. Career Field Education and Training Plan. A comprehensive, multipurpose document that encapsulates the entire spectrum of training for a career field or specialty. It outlines a logical growth plan that includes training resources and makes career field training identifiable, eliminates duplication, and is budget defensible.

Core Task. Tasks the AFCFM to identify as minimum qualification requirements for everyone within an Air Force specialty regardless of duty position. Core tasks may be specified for a particular skill level or in general across the AFSC.

CTS. Course Training Standard. Training standard that identified the training members will receive in a specific course.

DA. Developmental Assignment.

DE. Developmental Education.

DOD. Department of Defense.

FEQ. Field Evaluation Questionnaire. FEQs solicit feedback from supervisors and/or graduates to determine if the graduates were trained as specified in the training standard.

GAS. Graduate Assessment Survey. The GAS gathers customer feedback on any AF graduate of designated initial skill courses.

IAW. In Accordance With.

ICBM. Intercontinental Ballistic Missiles. ICBMs are comprised of the Minuteman weapon system. Minuteman is one of the three elements of the U.S. strategic nuclear arsenal. The term ICBM is broken down to describes the missile's range, intercontinental, and re-entry vehicle trajectory, ballistic

IDE. Intermediate Developmental Education. Specific educational opportunities inside and outside the AF to include but not limited to Air Command and Staff College, and identified advanced academic degree programs.

IQT. Initial Qualification Training. IQT is a formal AETC resident course, which results in award of the entry skill level.

IPZ. In the promotion zone, e.g., primary zone.

LSB/LEB. Launcher Support Building/Launcher Equipment Building. Area of an ICBM launch facility containing environmental control, power distribution and other support equipment.

MFM. MAJCOM Functional Managers.

MOFC. Munitions and Missile Maintenance Officer Fundamentals Course. Initial AETC course for all 21M.

CMOC. Munitions Maintenance Officer Course. An AETC course for munitions maintenance officer accessions. (This course is also required for officers transitioning from other 21MX functions)

MMOC. Missile Maintenance Officer Course. An AETC course for missile maintenance officer accessions. (This course is also required for officers transitioning from other 21MX functions)

NMOC. Nuclear Maintenance Officer Course. An AETC course for nuclear munitions maintenance officer accessions. (This course is also required for officers transitioning from other 21MX functions)

PRP. Personnel Reliability Program.

Qualification Training. Training designed to qualify an officer on tasks identified in part II. This training occurs both during and after the upgrade training process and is designed to provide performance skills training required to do the job.

QTP. Qualification Training Package. An instructional course designed for use at the unit. It may be printed, computer-based, or in other audiovisual media.

Resource Constraints. Resource deficiencies, such as money, facilities, time, manpower, and equipment, that precludes training.

SDE. Senior Developmental Education. Specific educational opportunities inside and outside the AF to include but not limited to Air War College, National Defense University, Industrial College of the Armed Forces, Army War College and Naval War College.

TOS. Time on Station.

TR. Training Reference.

WSO. Weapon Safety Officer

WSM. Weapons Safety Manager Course. An AETC course for experienced munitions and missile maintenance officers.

PART I
Section A - GENERAL INFORMATION

1. **Purpose**. This CFETP contains information for career field functional managers, training managers, commanders, supervisors, trainers, and technical training centers use to plan, develop, manage and conduct a robust 21M-training program. This plan identifies initial qualification, and upgrades. The plan outlines training individual munitions and missile maintenance officers should receive to develop and progress throughout their careers. The CFETP:

1.1. Serves as a management tool to ensure training is provided at the appropriate point in an officer's career.

1.2. Identifies requirements for each skill level and recommended training for each phase of an officer's career.

1.3. Lists training courses available in the specialty, identifies training sources, and the training medium.

1.4. Identifies major resource constraints that impact career field-training implementation.

2. **CFETP uses.** The CFETP is approved and maintained by the Air Force Career Field Manager (AFCFM) in accordance with (IAW) AFI36-2201V5, *Air Force Training Program Career Field Education and Training*. The MAJCOM 21M Functional Managers (MFM) and AETC review the CFETP annually to ensure currency and accuracy. Forward recommended changes to the AFCFM, HQ USAF/ILMW. MAJCOM requests for additional training must either be accompanied by funding or must be satisfied within existing resources. MFM and supervisors at all levels will use this plan to ensure a comprehensive and cohesive training program is instituted for each officer.

2.1. AETC develops/revises formal resident, and exportable training based on user requirements documented in this CFETP. AETC is responsible for developing procurement and acquisition strategies to obtain the resources required providing training identified in the CFETP. The 360 TRS Training Manager is the custodian of this CFETP and ensures HQ AFPC/DPPAT receives approved revisions for publication. Training managers are responsible for notifying HQ AETC to index the CFETP in AFIND 8.

2.2. The AFCFM will periodically schedule and chair Utilization and Training Workshops (UT&W) to address career field training needs.

2.3. MFMs ensure training programs complement mandatory CFETP skills requirements. AETC and unit resident training, or exportable courseware/courses will satisfy training requirements. MAJCOM-developed munitions and missile maintenance officer training must be identified for inclusion in this plan and must not duplicate available training.

2.4. Unit level training managers and supervisors will manage and control career field training by ensuring each officer completes mandatory training requirements specified in this plan. The list of courses in Part II, Section D, is used to determine training requirements.

2.5. Commanders will monitor maintenance training effectiveness; notify MFMs of formal training shortfalls to ensure timely correction and redirection of formal training emphasis; and ensure a solid maintenance officer training program is developed and executed to provide the best possible learning environment for maintenance officers.

2.6. The CFETP is the training plan used by the 21M officer to determine training requirements and understand the career field paths and opportunities available. Each 21M officer will complete the mandatory follow-on training requirements specified in this plan and as specified by the unit. Specific instructions for follow-on training are described in Part 2, Section C. The CFETP serves as the training record for the individual officer and is to be maintained part of their career development.

3. **Coordination and Approval**. The AFCFM is the approval authority. MAJCOM representatives and AETC training personnel will identify and coordinate career field training requirements. The 360 TRS Training Manager for AFSC 21M will initiate an annual AETC review of this document to ensure currency and accuracy.

PART I
Section B - CAREER FIELD PROGRESSION AND INFORMATION

1. **Purpose**. This section provides information for career field functional managers, commanders, supervisors, training managers, trainers, and the technical training centers to plan career field progression in the munitions and missile maintenance officer specialty. It also describes the functions and responsibilities of the 21M AFSC.

2. **The Munitions, Missile and Space Maintenance Utilization Field.** The 21MX AFSC includes missile maintenance, conventional and nuclear munitions maintenance, space maintenance and weapons safety. The following paragraphs are from AFMAN36-2105, *Officer Classification:*

2.1. Specialty Summary. Manages maintenance and modification of conventional munitions, nuclear weapons, cruise missiles, intercontinental ballistic missile (ICBM) weapon systems, and associated support equipment, vehicles and hardware. Administers weapons programs and resources. Directs weapons maintenance production, staff activity, and related material programs. Manages ICBM missile maintenance activities at launch and missile alert facilities, and support base, including maintenance, repair, and inspection of missile flight systems, nuclear certified support vehicles and equipment, and associated ground support equipment. Manages cruise missile maintenance activities including maintenance, repair, check out, and inspection of missile flight systems, airframes and surfaces, fuel on and off-load operations, and warhead installation and removal. Manages conventional munitions builds, teardowns, and accountability. Oversees space launch vehicle build-up and launch activities; ensures launch facilities meet requirements. Serves as munitions and missile maintenance staff advisor to commanders. Related DoD Occupational Groups: 4E.

2. 2. Duties and Responsibilities:

2.2.1. Directs munitions and maintenance operations activities. Maintains workforce discipline and responds to personnel issues, while balancing workforce availability and skill levels with operational requirements. Works with functional managers to develop, formulate, and manage fiscal resources. Instills maintenance discipline, security awareness and force protection concepts. Ensures data accuracy in maintenance data collection and accountability systems. Ensures adherence to technical data, policy procedures and safe maintenance practices. Establishes training requirements and performance standards for operational systems. Recommends procedural, technical improvements, and modifications for all aspects of maintenance. Coordinates with operational and support units to ensure equipment readiness and efficiency of assigned forces. Formulates maintenance plans and policies to meet unit tasking. Assesses unit maintenance capability in support of combat related operational plans. Plans and programs support requirements, modifications, and modernization. Reviews maintenance and operational data to evaluate programs, assess trends, and identify improvements and deficiencies. Manages quality assurance, maintenance training, budget and resource management, analysis, facilities, plans and programs, and shared resources. Coordinates lateral logistics activities to ensure supply, transportation, and funding are integrated to support mission requirements. Monitors and evaluates contracted logistics and maintenance support activities. Maintains liaison with contractors' representatives to identify and ensure resolution of maintenance and performance problems.

2.2.2. Formulates maintenance procedures for all munitions and missile systems. Builds integrated maintenance support plans and develops maintenance support structures to sustain maintenance and personnel. Conducts conventional munitions, nuclear weapons, and missile safety training.

Evaluates explosives and nuclear safety criteria and develops explosives site plans for storage, movement, and operations of conventional munitions, nuclear weapons, and missiles. Manages conventional munitions, nuclear weapons, and missile maintenance production. Manages Personnel Reliability Program (PRP), nuclear surety program, and weapon system safety rule compliance. Manages Air Force munitions storage and distribution. Develops procedures for storing, assembling, delivering, inventory management, and testing for conventional munitions, nuclear weapons, and missiles. Develops procedures for, and manages routine disposal of common US munitions. Manages and coordinates activities to support space lift readiness operations. Advises commander on operational status of space lift assets. Plans and coordinates booster flight profiles. Manages qualifications and validation of expendable launch vehicles, including engineering proposals, hardware, and software procurement. Certifies launch readiness of flight hardware, associated facilities, and supporting test range resources. Directs DoD and civilian agencies and aerospace contractors throughout launch preparation activities. Monitors operation and performance of vehicle activities and flight dynamics. Represents maintenance in development of flight procedures, mission checklists, and mission flight rules.

2.2.3. Directs maintenance activities that may include propulsion, pneudraulics, fuel systems, electro-mechanical, mechanical, security, facility, pneumatics, avionics, structural repair, corrosion control, machine, inspection, non-destructive testing, transportation and handling systems, support equipment, build-up, tear-down, and explosive devices.

3. **Skill and Career Progression.** Quality training and timely progression through skill levels plays an extremely important role in the Air Force's ability to accomplish its mission. Therefore, it is essential everyone involved in training plan, develop, manage, conduct, and evaluate an effective and efficient training program. The following narrative and the 21M Career Field Tables 1 and 2 identify the training career path and define required training.

3.1. **Entry Level**. IAW AFI36-2201V2, *Air Force Training Program Training Management*, initial qualification training (IQT) must be completed within six months of entering active duty unless restricted by lack of security clearance or other extenuating circumstances. Upon successful completion of the 21M AETC IQT Munitions or Missile Maintenance Officer Course, graduates will receive entry level 21M1 AFSC. Initial assignments provide opportunities to establish technical expertise within the munitions and missile maintenance career field. Attendance at Air and Space Basic Course should occur during this time frame.

3.1.2 **Positions include, but not limited to: Section OIC, Flight Commander, MASO**

3.1.3 **Entry Level officers should**: Understand all requirements within the Career Field Education and Training Plan (CFETP).

3.1.2 **Basic Certification**. Representative grades are normally 0-1 through 0-3. Completion of formal AETC entry-level training is required for basic certification

3.2. **Intermediate Level**. Company grade officers should begin to broaden their breadth of knowledge, experience, and expertise by pursuing developmental assignments (DA) opportunities. DA include AETC instructor duty, logistics readiness officer positions, aircraft maintenance, finance, acquisition, aerospace power employment, and plans and programs. Timing and needs of the AF as well as individual goals will determine DA opportunities for each individual. Company grade officers have developmental education (DE) opportunities for Squadron Officer School (SOS) and the Air Force Intern Program. Additional DA and DE opportunities are evolving. Check the Maintenance Officer Force Development web page located at

https://www.dp.hq.af.mil/afslmo/fd/ for the most current information. Company Grade Officers are eligible to compete for the Logistics Career Broadening Program. Information pertaining to this program and eligibility criteria can be found in AFI36-2111 *The Air Force Logistics Officer Career Broadening*. Senior Captains are required to attend the AETC Maintenance Officer Intermediate Course (MOIC). To develop a firm foundation in the maintenance career field two of the first three assignments should be in a 21M position. When possible it is advantageous to hold a position at an ICBM unit and at a munitions unit.

3.2.1 **Positions include, but not limited to: Section OIC, Flight Commander, MASO, QA, Safety, Developmental Assignments, Inspector, Depot, Program Manager**

3.2.2 **Qualified Level officers should**: Complete the CFETP including all MAJCOM Specific follow-on requirements.

3.3 **Senior Certification**. Representative grades are normally 0-3 through 0-4. An officer will be eligible for Senior level at the seven-year mark in the specialty provided he/she has completed the education and training requirements specified in Table 3. Training will be documented in the officer's follow-on training requirements (table 5) and be presented during Senior Certification with Group Commander.

3.4 **Staff and Senior Level**. At the field grade level, an officer will continue to broaden expertise while strengthening their background in maintenance through leadership and staff assignments. During this time they should pursue those opportunities that make them viable for squadron command and subsequent selection for group command or a key senior maintenance officer position. The opportunities for DA include aircraft maintenance, logistics readiness, acquisition, financial management, aerospace power employment, plans and programs and political military positions. DE opportunities for Majors include but are not limited to Air Command and Staff College, Army Command and Staff College, Marine Command and Staff College, AF Institute of Technology (AFIT), and specified advance academic degree programs. DE opportunities for Lt Col include but are not limited to Air War College, Army War College, Naval War College, National Defense University, Industrial College of the Armed Forces, and specified advance academic degree programs. DE and DA opportunities for field grade officers are evolving. Check the Officer Force Development web page located at https://www.dp.hq.af.mil/afslmo/fd/ for the most current information.

3.3.2 **Positions include, but not limited to: Flight Commander, QA, Safety, Developmental Assignments, Inspector, Depot, Program Manager Staff Officer (NAF, MAJCOM,) Sq/CC, Maintenance Operations Officer, Joint Staff, WSO**

3.5. **Master Certification**. Representative grades are normally 0-4 and higher. An officer will be eligible for the Master level at the 15-year mark provided he/she has completed the education and training requirements specified in Table 3. Training will be documented in the officer's follow-on training requirements (table 6) and presented during Master Certification with the Group Commander. Officers within this level of competency are ready to assume broader leadership roles.

3.6. **Grandfather Plan**: Officers with less than 24 months time in commissioned service will be required to complete all requirements for senior certification and award of the fully qualified 21M3 AFSC (TAFCSD 1 Jan 2002 and later). Officers with less than 7 years of commissioned service will be required to complete the Maintenance Officer Intermediate Course (1 Jan 1997 TAFCSD and later) and meet the time-in-core AFSC criteria, in order to obtain their senior certification. Officers with between 7 and 13 years of commissioned service will automatically receive their

senior level certification and be required to meet the education and experience requirements for the master level certification (TAFCSD between 1 Jan 1991 and 31 Dec 1996). Officers with between 13 and 15 years commissioned service will be required to meet the time-in-core AFSC criteria in order to obtain their master certification (TAFCSD between 1 Jan 1989 and 31 Dec 1990). Officers with over 15 years commissioned service will automatically receive their master level certification (TAFCSD of 31 Dec 1988 or earlier).

	21MX MUNITIONS AND MISSILE MAINTENANCE OFFICER TRAINING FLOW **Second Lieutenant Accessions**
0 - 4 Months	21M1/21M1C: Attend maintenance officer fundamentals course and MMOC or CMOC successful completion results in award of 21M1 entry level AFSC. Note: Officers attending CMOC will flow directly into NMOC if their assigned unit possesses 21MXC positions. Basic Developmental Education (BDE) opportunities begin with Air and Space Basic Course eligibility
4 - 7 Months	MAJCOM specific training.
12-48 Months	21Ms assigned to munitions positions begin AFCOMAC eligibility.
24 Months	Promotion to first lieutenant. Officers in munitions positions with 2-years time on station (TOS) should consider an assignment to space or missiles; and officers in missile positions with 2-years TOS should consider an assignment to space or munitions. When a 21M1 successfully completes 24 months in a maintenance position, completes all CFETP MAJCOM mandatory training, and successfully meets the group commanders interview requirements, the group commander will award the 21M3/21M3C Qualified level AFSC.
36 Months	PCS eligible to other 21M positions, to include AETC instructor duty.
48 Months	Promotion to captain, BDE opportunities continue with Squadron Officer School (SOS) eligibility. Developmental assignment opportunities open and include: aircraft maintenance, logistics readiness, acquisition, finance, aerospace power employment, plans and programs positions. Officers must ensure timely submission of the Officer Development Plan to their unit commander. Opportunities begin for AFIT Logistics Management Graduate Program. Eligibility begins to attend Maintenance Officer Intermediate Course (MOIC).
60-72 Months	Officers on DA return. Officers continue to build breadth and depth in munitions and maintenance assignments. DA opportunities for Weapon Safety Officers open. Weapon Safety Manager Course for those selected For Weapon Safety Officer positions.
7 Years	SOS window ends.
8-11 Years	IPZ promotion to major eligibility begins. Intermediate Developmental Education (IDE) window begins; opportunities include: Air Command and Staff College, Army Command and Staff College; Marine Command and Staff College, AFIT and other specified advance academic degree programs. DA opportunities open in the following areas: aircraft maintenance, logistics readiness, acquisition, finance, aerospace power employment, plans and programs, and political military.
15 Years	IDE window ends.
15-17 Years	IPZ selection opportunity to lieutenant colonel. Senior Developmental Education (SDE) window begins.
19-21 Years	SDE window ends. IPZ selection opportunity to colonel.

Table 1.

	21MX MUNITIONS AND MISSILE MAINTENANCE OFFICER TRAINING FLOW **Captain Cross Train**
48 Months	Promotion to captain, SOS window begins.
51 - 52 Months	21M1/21M1C: MMOC or CMOC (6-8 weeks) and award entry level AFSC. 21M1C flow directly from CMOC to NMOC.
52 - 55 Months	MAJCOM specific mandatory training. AFCOMAC eligibility for officers assigned to munitions positions opens.
6 Years	When a 21M1 successfully completes 24 months in a maintenance position, completes all CFETP MAJCOM mandatory training, and successfully meets the group commanders interview requirements, the group commander will award the 21M3/21M3C Qualified level AFSC. Opportunities begin for AFIT Logistics Management Graduate Program. DA assignments to Weapon Safety Officer positions open; Weapon Safety Course for those selected for Weapon Safety Officer positions. Officers in munitions positions should consider an assignment to space or missiles; and officers in missile positions should consider an assignment to space or munitions.
7 Years	SOS window ends. Officers should apply to attend Maintenance Officer Intermediate Course (MOIC). PCS eligible to other 21M positions, to include AETC instructor duty.
8-11 Years	IPZ promotion opportunity to major. Intermediate Developmental Education (IDE) window begins; opportunities include: Air Command and Staff College, Army Command and Staff College; Marine Command and Staff College, AFIT and other specified advance academic degree programs. DA opportunities open in the following areas: aircraft maintenance, logistics readiness, acquisition, finance, aerospace power employment, plans and programs, and political military. Officers must ensure timely submission of the Officer Development Plan to their unit commander.
15 Years	IDE window ends.
15-17 Years	IPZ selection opportunity to lieutenant colonel, SDE window begins. Eligibility for 21M4 begins.
19-21 Years	SDE window ends. IPZ selection opportunity to colonel.

Table 2.

Munitions, Missile and Space Maintenance Officer Certification				
To obtain ⇒	**Basic**	**Eligibility for 21M3 certification levels**	**Senior**	**Master**
Must complete ⇓				
Training (1)		Training Requirements established in CFETP	MOIC or AMMOS	
Education (2)	Entry-level AETC Formal Training Course: - MOFC and CMOC or MMOC	Base level Maintenance Officer Training Program - CFETP Core tasks & unit supervisor identified tasks	Complete 2 of the following courses (minimum of 1 for ARC): Graduate Level Logistics course Logistics Career Broadening AMIC Aircraft Mishap Invest Crse JEMIC Jet Engine Mishap Invest Crse AFCOMAC Air Force Combat Munitions School AFIT LOG 032 Reliability-Centered Maintenance for In-Service Engines AFIT LOG 131 Industrial Maintenance Management AFIT LOG 132 Production Maintenance Management (PMS Internship) AFIT LOG 199 Introduction to Logistics AFIT LOG 262	1 of the following: AFIT LOG 399-499 DAU LOG 203 204 AFIT LOG 260 DAU LEAN Introduction to Lean Enterprise Concepts DAU LEAN Lean Six Sigma Logistics Career Broadening

			Applied Maintenance Management Concepts AFIT LOG 299 Combat Logistics AFIT LOG 399 Strategic Logistics Management AFIT REQ 111 Capabilities Based Operational Requirements Course AFIT SYS 170 Maintenance Planning AFIT SYS 172 Modification Management Process AFIT SYS 173 Product Support Management Planning AFIT SYS 350 Reducing Acquisition Response Time AFIT SYS 352 Incentives for Reducing Acquisition Response Time AMMOS Advanced Maintenance & Munitions Officer School AMQ100-000 Quality Assurance Evaluator (QAE) Training ASAM Advanced Studies in Air Mobility AU OSCC On-Scene Commanders' Course CWPC Contingency Wartime Planning Course DAU ACQ 101 Fundamentals of Systems Acquisition	

			Management DAU ACQ 201A Intermediate Systems Acquisition, Part A DAU ACQ 201B Intermediate Systems Acquisition, Part B DAU LOG 101 Acquisition Logistics Fundamentals DAU LOG 102 Systems Sustainment Management Fundamentals DAU LOG 201A Intermediate Acquisition Logistics, Part A DAU LOG 201B Intermediate Acquisition Logistics, Part B DAU LOG 203 Reliability and Maintainability DAU LOG 204 Configuration Management DAU LOG 235A Performance Based Logistics, Part A DAU LOG 235B Performance Based Logistics, Part B DAU LOG 304 Executive Life Cycle Logistics Management DAU PMT 250 Program Management Tools DAU PQM 101 Production, Quality and Manufacturing Fundamentals DAU PQM 201A Intermediate Production, Quality and Manufacturing, Part A DAU PQM 201B	

			Intermediate Production, Quality and Manufacturing, Part B DAU TST 101 Intro to Acquisition Workforce Test and Evaluation DAU LEAN Introduction to Lean Enterprise Concepts DAU LEAN Lean Six Sigma DNWS NWOC Nuclear Weapons Orientation Course DNWS TNOC Theater Nuclear Operations Course DNWS RAC-3 Radiological Accident Response Command & Control Course DNWS RETOR Radiological Emergency Team Operations Course ISFC Inter-Service Space Fundamentals ISIOC Inter-Service Space Intelligence Operations NATO School I-11: Nuclear Safety and Security DTRA: Nuclear Weapons Orientation Course USAFE University, Nuclear College: Nuclear Manager's Course USAFE University, Nuclear College: USAFE Munitions Accountable Systems	

			Officer / Nuclear Ordnance Control Material Course	
Experience (3)		Successfully perform any core 21M job-unit level such as: Flt CC Section OIC MASO Nuclear MASO Conv	Successful completion of 7 years duty in core 21M AFSC. One of the following: Maintenance Operations Officer (MOO) OIC, Aircraft Maintenance Unit Flight Commander Depot Maintenance MAJCOM/NAF Staff Space Instructor (Schoolhouse) WSO Quality Assurance	Successful completion of 15 years in core Active duty will also have any 2 of the following duty positions: Command /MAJCOM/ Air Staff Depot / Acquisition Joint logistics duty Maintenance Operations Officer (MOO) Quality Assurance 20C0 (Deputy MXG) Instructor Duty Crossflow to 21A or 21R AFSC or logistics related DA

Table 3. Munitions Missile and Space Maintenance Officer Certification

4. **Career Planning Diagram.** The munitions, missile and space maintenance career planning diagram (CPD) captures career progression and professional development though-out an officer's career (Figure 1). At the tactical level the 21M officer will be developing and utilizing the core maintenance principles that will establish that solid grounding in the career field. Some officers will remain in the tactical level providing their depth of expertise. Other 21M opportunities will have munitions and maintenance officers moving to the operational and strategic levels with increasing levels of responsibility and leadership opportunities. There is no "set path to senior leadership.

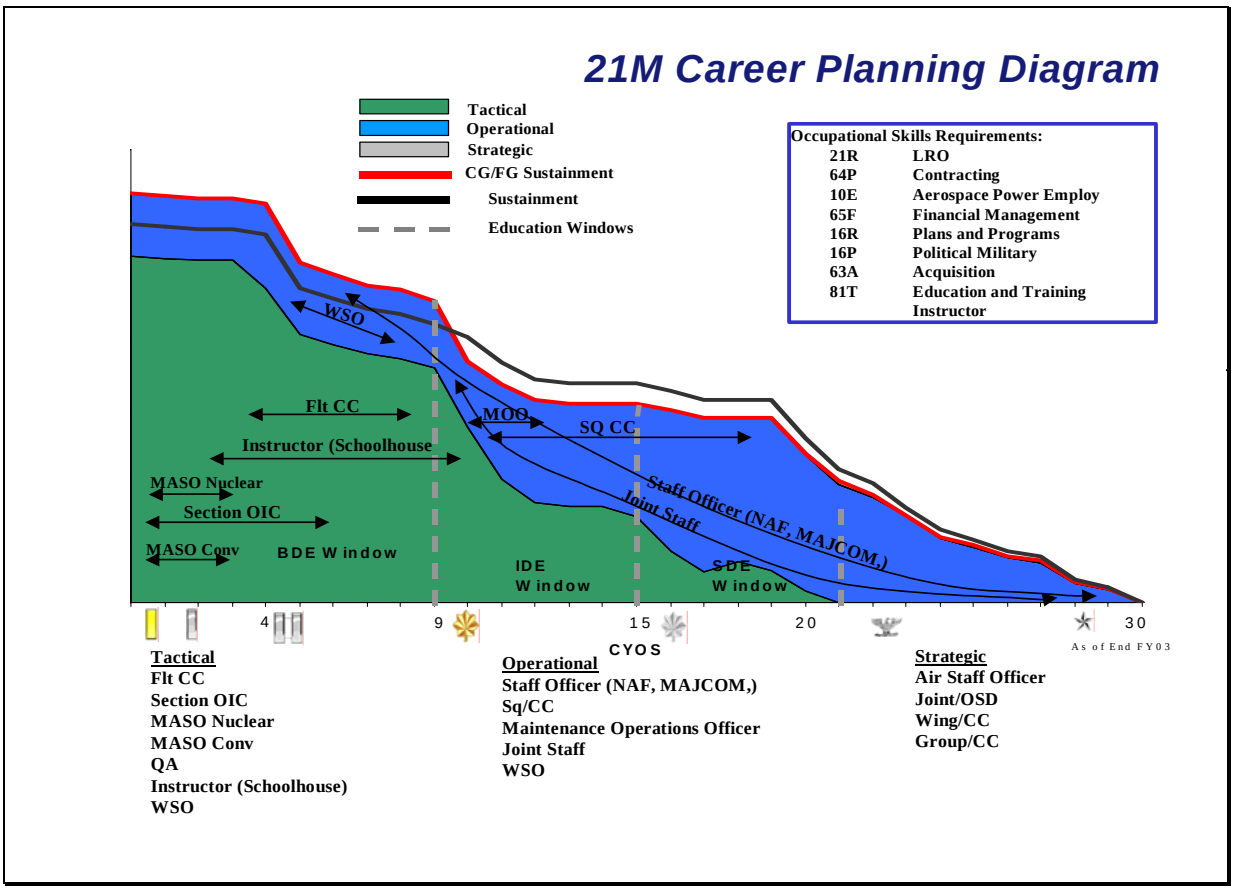

Figure 1

4.1. **Munitions, Missile and Space Maintenance Officers path diagram**. The Munitions, Missile and Space Maintenance Officers path diagram (Figure 2) illustrates career progression opportunities that 21M officers will have available as they move within the CPD. Initial accessions will enter their core discipline where they are expected and required to develop an in-depth working knowledge. As the career path illustrates, the stovepipe paradigm is eliminated, and company grade officers may cross discipline barriers. It is important to note a maintenance officer cannot remain stove-piped as developmental assignment exist at the Capt and Maj levels. The 21M force development will ensure 21M officers of the future will have the depth and breadth required to fill our senior maintenance and munitions positions.

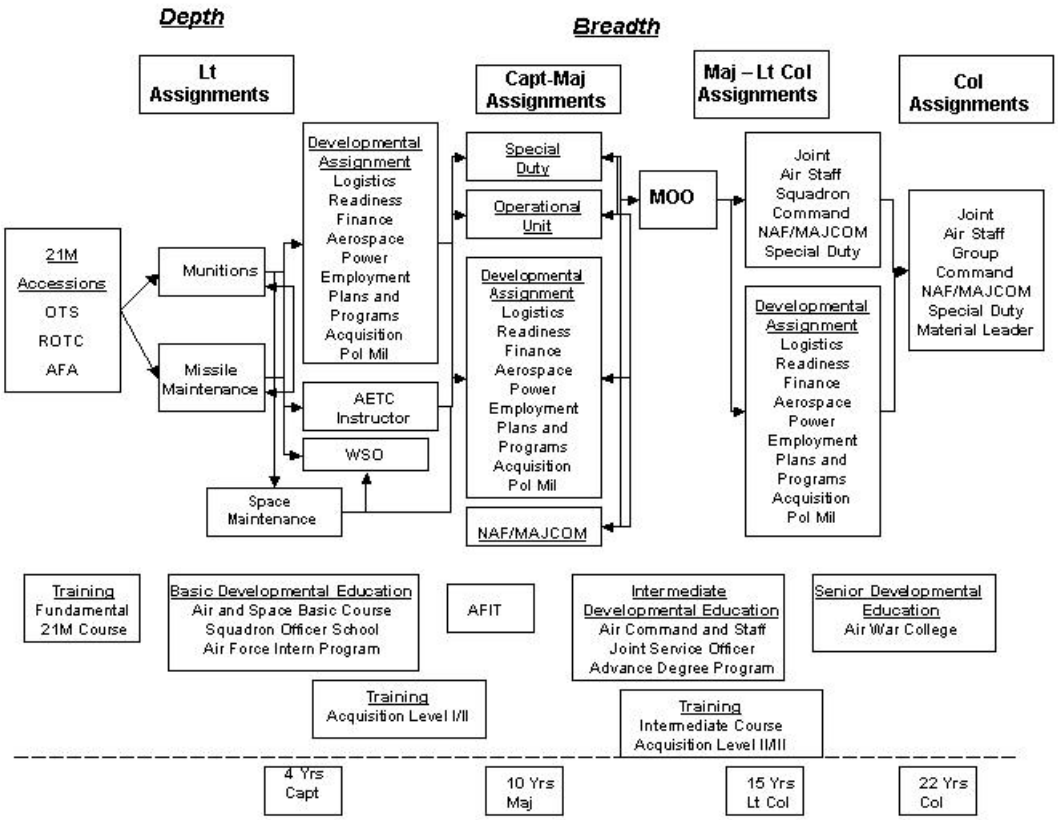

Figure 2

5. **Training Decisions.** The following decisions were made at the 2004 U&TW:

5.1. **Initial Qualification Training**. IQT will be developed and taught by AETC, after validation through the AFCFM. The CTSs establish training requirements in a proficiency statement format and are listed in Part II Section A. IQT structure reflects the merger of the munitions and missile maintenance career fields into a single AFSC. Training officers on maintenance core skills and tasks is an important step in blending the AFSC and establishes a firm maintenance foundation for future DA opportunities. DA opportunities include AETC instructor duty, logistics readiness officer positions, aircraft maintenance, finance, acquisition, aerospace power employment, and plans and programs. Picture fundamental core maintenance as the foundation or the tree trunk, for all maintenance training, and specific weapon system training as the branches of the tree. (Figure 3)

Figure 3

IQT provides 21Ms the maintenance foundation and a branch of weapon system specific training. Due to funding constraints IQT revisions focus on training specific to 21M requirements, and do not duplicate commissioning source training or general officership instruction.

5.2. **MAJCOM Specific Training.** Each MAJCOM is tasked to provide specific training requirements for their officers. These training requirements are consolidated and listed in Section C "Follow-on Training". Each MAJCOM will provide MAJCOM specific proficiency codes to 21M officer follow-on training. These proficiency codes establish the expected knowledge level that an officer is to maintain while assigned to that MAJCOM. Unit may increases task proficiency requirements, but may not decrease the established MAJCOM levels. Proficiency levels will be reviewed during U&TW's. Officers must complete this training IAW MAJCOM specified requirements in terms of timing and positions.

PART I
Section C - PROFICIENCY TRAINING REQUIREMENTS

1. **Purpose**. The proficiency training requirements in the 21MX career field are defined in terms of task and knowledge requirements for each skill level in the munitions, missile and space maintenance officer specialty. They are stated in broad, general terms, and establish the standards of performance. The specific knowledge training requirements are identified in Part II. Officers will develop depth on their first unit level assignment by gaining experience both as a leader and a functional expert. A minimum of four years of experience is recommended before cross flowing into a second functional area or requesting AETC instructor duty. Normally, two years of experience is required to become fully qualified in the second functional area. As senior captains and majors, maintenance officers should consider a headquarters staff position and a tour as maintenance ops officer to gain valuable experience and further their development. The 16-year experience point, generally a Lt Col, is a rough expectation of when the maintenance officer will be fully qualified and prepared to succeed at any senior maintenance position.

1.1. Specialty Qualifications:
AFI 36-2640V1 *Total Force Development (Active Duty Officer)* states: "Commander and supervisor involvement, in developing and utilizing their officers, is essential to Force Development. Squadron CCs are responsible for assessing each officer's development potential." Once the officer successfully completes IQT, MAJCOM mandatory training and meets the time requirements specified in IAW AFMAN36-2105 *Officer Classification,* which states 24 months after award of the 21M1, the officer can be considered for upgrade to a 21M3, Qualified. The squadron commander will verify the munitions and missile maintenance officer has completed training requirements for award of 21M3 AFSC, which designates full qualification. Upon squadron commander verification the Maintenance Group Commander will conduct an interview with the officer to determine whether the officer meets the requirements specified in this CFETP and to certify their upgrade to a 21M3

2. **Munitions, Missile and Space Maintenance Officer Specialty Qualifications**: 21M1, 21M3 and 21M3C.

2.1. Knowledge. The following knowledge is mandatory:

2.1.1. Maintenance management procedures, organizational and mission requirements; capabilities, limitations, basic weapons, weapons procedures, and quality assurance; supply, transportation, civil engineer, and other unit operations related to munitions, missile or space maintenance units; conventional air-to-air missiles; air-to-ground weapons including: guided, rocket-boosted, and unguided munitions; dispensers and submunitions; suspension and release equipment; fuses; wiring harnesses; loading procedures; safety tests; munitions ground handling equipment; production control and maintenance data collection procedures. Nuclear weapons and warheads; missile and re-entry systems; nuclear armament systems; suspension and release equipment; weapon use-control; nuclear surety; joint nuclear procedures; related test, handling, and SE; missile operations; including, emergency war orders, O-Plans, maintenance capabilities, limitations, and missile employment policy; nuclear weapons use control; PRP; nuclear surety; nuclear weapons system safety rules; lateral logistic functions related to missile maintenance equipment.

2.2. Education. For entry into this specialty, an undergraduate academic degree in management,

business administration, economics, mathematics, science, engineering, computer science, or logistics management is desirable.

2.3. Training. The following training is mandatory for award of the AFSC indicated:

2.3.1. 21M1. Award of the 21M1 AFSC, requires completion (to include a comprehensive final exam) of the AETC in-residence basic munitions or missile maintenance course.

2.3.2. 21M1C Award of the C-Suffix requires completion of the Nuclear Maintenance Officer's Course (NMOC) or 18 months experience in nuclear weapons storage and maintenance or management of NOCM accounts. The C-Suffix is required to be a nuclear MASO, reference AFI 21-204 for additional guidance. Personnel with an assignment to an overseas account, who have not attended NMOC should receive training enroute.

2.4. Experience. The following experience is mandatory for award of the AFSC indicated:

2.4.1. **21M3**. Complete all CFETP mandatory training requirements, minimum of 24 months of experience successfully managing conventional munitions, or conventional missile maintenance activities, completion of all MAJCOM specified CFETP requirements and successfully certifying to the group commander IAW CFETP requirements.

2.4.2. **21M3C**. Complete all CFETP mandatory training requirements, a minimum of 24 months of experience in a designated position successfully managing nuclear weapons or ICBM nuclear related maintenance activities, completion of all MAJCOM specified CFETP requirements, and successfully certifying to the Group Commander or equivalent IAW CFETP requirements.

2.4.3. **21M4**. Award of the 21M4 will be made to officers who were awarded the 21M3 AFSC, successfully completed the AETC Maintenance Officer Intermediate Course, and assignment to a staff position above the wing level.

2.4.4. Training Sources/Resources. A list of all training courses to support education and training is in Part II, Section D.

3. **Munitions, Missile and Space Maintenance Staff Officer Specialty Qualifications**: 21M4.

3.1. Knowledge.

3.1.1. Mandatory knowledge for those entering a missile and space maintenance staff officer position at MAJCOM, Air Staff, etc.: Evolution of missiles; space and missile operations including booster and payload processing; solid and liquid rocket performance, maintenance capabilities, limitations, and employment of missile and space equipment; maintenance management; production control and maintenance data collection procedures; and lateral logistic functions related to munitions, space, and missile maintenance as required for position.

3.1.2. Mandatory knowledge for those entering a munitions maintenance staff position at MAJCOM, Air Staff, etc.: In-depth technical knowledge of both conventional and nuclear weapons. In-depth practical experience in the management, sustainment, and employment of conventional/nuclear munitions to include thorough knowledge/experience in AEF concepts of operation and mobility; thorough knowledge in all aspects of weapons safety; requirements sustainment, and operations management; thorough understanding and technical background in all required data collection and accountability systems.

3.2. Education. Master's degree in logistics management or business administration with emphasis on management is highly desirable.

3.3. Training. If the officer has previously been awarded the 21M3 AFSC no additional training is required for award of the 21M4 AFSC. Completion of all prescribed AETC courses is mandatory before being awarded the 21M4 AFSC for all other officers. Completion of the Maintenance Officer Intermediate Course is mandatory. See the appropriate section of the training standard in Part II, Section A for specific training requirements.

3.3.1. Training Sources/Resources. A list of all training courses to support education and training is in Part II, Section D.

3.3.2 Implementation: Guidelines for waivers. Officers may request a waiver of requirements if their formal education and functional experience justifies a waiver. Waiver authority is the Air Force Career Field Manager.

4. **Acquisition Specialty Certification Requirements.** The Acquisition Professional Development Program (APDP) was established to ensure career development within designated acquisition and logistics career fields.

4.1. Level I (Entry):

4.1.1. Experience. Mandatory one year of acquisition experience in a designated specialty. At least 50% of the officer's duties must consist of acquisition related activities.

4.1.2. Education. Requirements are different for each specialty. An undergraduate or advanced degree in a technical, scientific, or managerial field is normally required. Technical education of a long-term nature in a service school (AFIT) may be used to satisfy the requirement.

4.1.3. Training. One basic systems acquisition course is mandatory. One course in a designated acquisition specialty is desired.

4.2. Level II (Intermediate):

4.2.1. Experience. Mandatory two years of acquisition experience gained as follows: two years in systems acquisition performed while assigned to a program management office, headquarters activity, or staff organization which provides support to an acquisition activity. At least one of these two years must be in the designated acquisition specialty. At least 50% of the officer's duties must consist of acquisition related activities. Two additional years of experience in acquisitions is desired.

4.2.2. Education. Education is the same as Level I. Desired advanced academic education is specified for each specialty.

4.2.3. Training. Meet mandatory Level I requirements for the designated acquisition specialty. Depending upon the acquisition specialty, basic and intermediate level acquisition courses in program management, acquisition logistics, engineering, manufacturing, configuration management, contracting, financial management, and test and evaluation will be taken.

4.3. Level III (Senior):

4.3.1. Experience. Mandatory four years of acquisition experience gained as follows: four years in an acquisition specialty performed while assigned to a program management office, headquarters activity, or staff organization which provides support to an acquisition activity. At least 50% of the officer's duties must consist of acquisition activities. Four additional years of experience in acquisition is desired.

4.3.2. Education. The same as level I. Desired education is the same as Level II plus additional advanced education specified in each specialty.

4.3.3. Training. Meet mandatory Level II requirements and complete additional intermediate level courses in program management, acquisition logistics, engineering, manufacturing management, configuration management, contracting, financial management, and test and evaluation.

PART I
Section D - RESOURCE CONSTRAINTS

1. **Purpose**. This section of the CFETP identifies known resource constraints which preclude minimal/desired training from being developed or conducted. This section includes a narrative explanation of each resource constraint and impact statement describing what effect each constraint has on training. Also identified in this section are the resources needed to satisfy training requirements. Finally, this section includes action required, identifies the OPR, and establishes target completion dates. Resource constraints will be, at a minimum, reviewed and updated annually.

1.0. **Constraint:** Develop AETC course, Munitions and Missile Maintenance Officer Fundamentals Course, (MOFC) to meet user needs

1.0.1. Impact Statement: AETC will provide entry-level training for officers assigned to munitions maintenance units.

1.0.2. Resources Required: Course development personnel, start-up funding, development time, instructors, computers (10 student computers and 2 presentation computers), and student man-years. (Reference U&TW Minutes and Resource Constraint attachment)

1.0.3. Action Required: Revise CFETP to incorporate J3OBR21M1 000 Course Training Standard (CTS) training requirements. Use J3OBR21M1 000 CTS to develop new course.

1.0.4. OPR: 360 TRS and HQ USAF/ILMW

1.0.5. Target Completion Date: Oct 05

1.1. **Constraint:** Revise AETC course J3OBR21M1 000, Conventional Munitions Maintenance Officer Course (CMOC), to meet user needs.

1.1.1. Impact Statement: AETC will provide entry-level training for officers assigned to munitions maintenance units.

1.1.2. Resources Required: Course development personnel, start-up funding, development time, instructors, computers (10 student computers and 2 presentation computers), and student man-years. (Reference U&TW Minutes and Resource Constraint attachment)

1.1.3. Action Required: Revise CFETP to incorporate J3OBR21M1 000 Course Training Standard (CTS) training requirements. Use J3OBR21M1 000 CTS to develop new course.

1.1.4. OPR: 360 TRS and HQ USAF/ILMW

1.1.5. Target Completion Date: Oct 05

1.2. **Constraint**: Revise AETC course J3OLR21M1C 001, Nuclear Maintenance Officer Course (NMOC), to meet user needs. Use J3OLR21M1C 001, NMOC, for training source until J3OLR21M1 001 is activated.

1.2.1. Impact Statement: AETC provide entry level/crossflow training for officers assigned to nuclear-tasked maintenance units.

1.2.2. Resources Required: Course development personnel, start-up funding, development time, instructors, 1 security door, and computers (10 student computers and 2 presentation computers). (Reference U&TW Minutes and Resource Constraint attachment)

1.2.3. Action Required: Revise CFETP to incorporate J3OLR21M1 001 Course Training Standard (CTS) training requirements. Use course J3OLR21M1C 001, Nuclear Maintenance Officer Course for training source until J3OLR21M1 001 is activated.

1.2.4. OPR: 360 TRS and HQ USAF/ILMW

1.2.5. Target Completion Date: Oct 05

1.3. **Constraint**: Revise AETC course V3OBR21M1 001, Missile Maintenance Officer Course (MMOC), to meet user needs. Course V3OBR21M1 001 will require minor modifications to satisfy the training requirements.

1.3.1. Impact Statement: AETC provide entry level/crossflow training for officers assigned to missile maintenance units.

1.3.2. Resources Required: Course development personnel, development time, instructors,

1.3.3. Action Required: Revise CFETP to incorporate V3OBR21M1 00X Course Training Standard (CTS) training requirements. Use course V3OBR21M1 00X, Missile Maintenance Officer Course for training source until V3OBR21M1 00X is activated.

1.3.4. OPR: 532 TRS and HQ USAF/ILMW

1.3.5. Target Completion Date: Oct 05

PART II

Section A - TRAINING AND COURSE TRAINING STANDARDS

1. **Purpose**. Establish training standards for the four 21MX training modules:

1.1. Behavioral statements and task requirements. These are based on an analysis of the duties contained herein. The qualitative requirements for each task are based on the proficiency values listed in table 4.

1.2. Formal training requirements. As indicated in the behavioral statement, describes the level to which task and knowledge training should be accomplished by AETC.

2. **Records Documentation**. Completion of training will be documented and certified. AETC will document MOFC, MMOC, CMOC, or NMOC, training completion in the officer's CFETP in the table at Attachment 1, Training Completion Certification. The officer and supervisor/trainer will document unit follow-on training using the training task table in Part II, Section C. The officer's squadron commander is responsible for certifying that the officer has completed all formal training and is task knowledgeable. The commander will document this in the table at Attachment 1, Training Completion Certification.

3. **Munitions and Missile Maintenance Officer Course Training Tasks by Function.** The following Course Training Standards (CTSs) list the training requirements needed by the users and are broken out by training course (MOFC, MMOC, CMOC, and NMOC) ***The CTS's reflect the Munitions and Missile Maintenance course that will be taught starting Oct 05.***

3.1 **Munitions and Missile Maintenance Officer Fundamentals Course (MOFC).** Applies to all 21MX accessions assigned to a munitions or missile maintenance position.

3.1.1. Munitions and Missile Applications Focus. MOFC students must understand core maintenance principles and operations in a both wartime and peacetime environments.

3.1.2. MOFC is the initial course requirement for all 21M officers. 21M officers going to a munitions position will then attend the CMOC course, while 21M officers going to an ICBM assignment will attend MMOC.
.
3.1.3. Formal Training. MOFC is AETC formal training. The MMOC training tasks identified in the table below are the formal initial skills training requirements.

3.1.4. Graduate Assessment Survey. Unit supervisors will submit responses to Graduate Assessment Surveys (GAS) and Field Evaluation Questionnaires (FEQ) on officers who complete the formal
MOFC training at Sheppard AFB. Respond to GASs and FEQs when received from the technical training group (82 TRG/TTS). (Reference AFI 36-2201)

QUALITATIVE REQUIREMENTS

PROFICIENCY CODE KEY		
	SCALE VALUES	**DEFINITION: The Individual**
TASK	**1**	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (Extremely Limited)
PERFORMANCE	**2**	Can do most parts of the task. Needs only help on hardest parts. (Partially Proficient)
LEVELS	**3**	Can do all parts of the task. Needs only a spot check of completed work. (Competent)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (Highly Proficient)
	a	Can name parts, tools, and simple facts about the task. (Nomenclature)
***TASK**	**b**	Can determine step-by-step procedures for doing the task. (Procedures)
KNOWLEDGE LEVELS	**c**	Can identify why and when the task must be done and why each step is needed. (Operating Principles)
	d	Can predict, isolate, and resolve problems about the task. (Advanced Theory)
****SUBJECT**	**A**	**Can identify basic facts and terms about the subject. (Facts)** **Level 1: Knowledge -** exhibits previously learned material by recalling facts, terms, basic concepts and answers. *Key words:* who, what, why, when, omit, where, which, choose, find, how, define, label, show, spell, list, match, name, relate, tell, recall, select
	B	**Can identify relationship of basic facts and state general principles about the subject. (Comprehension)** Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas. *Key words:* compare, contrast, demonstrate, interpret, explain, extend, illustrate, infer, outline, relate, rephrase, translate, summarize, show, classify
KNOWLEDGE	**C**	**Can analyze facts and principles and draw conclusions about the subject. (Analysis)** Examining and breaking information into parts by identifying motives or causes; making inferences and finding evidence to support generalizations. *Key words*: analyze, categorize, classify, compare, contrast, discover, dissect, divide, examine, inspect, simplify, survey, take part in, test for, distinguish, list, distinction, theme, relationships, function, motive, inference, assumption, conclusion
LEVELS	**D**	**Can evaluate conditions and make proper decisions about the subject. (Evaluation)** Presenting and defending opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria. *Key Words*: award, choose, conclude, criticize, decide, defend, determine, dispute, evaluate, judge, justify, measure, compare, mark, rate, recommend, rule on, select, agree, interpret, explain, appraise, prioritize, opinion, ,support, importance, criteria, prove, disprove, assess, influence, perceive, value, estimate, influence, deduct

Table 4

COURSE TRAINING STANDARD (CTS)
Munitions and Missile Maintenance
Officer Fundamentals Course (MOFC)
J3OQR21M1 001
Task, Knowledge, and Proficiency Level

1. SUPPORT EQUIPMENT	
1.1. Describe the types and uses of support equipment/vehicles	**A**
1.2. Identify facts related to the types and uses of common hand tools	**A**
1.3. Identify facts related to tool accountability and Composite Tool Kits (CTKs)	**A**
1.4. Identify facts related to Test, Measurement, and Diagnostic Equipment (TMDE) as related to munitions maintenance requirements	**A**
1.5. Identify the requirements for nuclear certification status of equipment	**A**
1.6. Describe support equipment decentralization, software, vehicles, and test equipment	**A**
1.7. Identify facts related to general and special purpose vehicles	**A**
2. AIR FORCE PUBLICATION SYSTEMS	
2.1. Identify facts related to the use and application of Technical Orders (T.O.)	**B**
2.2. Identify facts related to Time Compliance Technical Orders (TCTO)	**A**
2.3. Identify the uses of the 11N series T.O.	**A**
2.4. Identify facts related to the current and projected digital T.O. system	**A**
2.5. Describe maintenance directives to include Air Force Instructions (AFIs) and Department of Defense Instructions (DoDIs)	**B**
3. PERSONNEL	
3.1. Describe the munitions and missile maintenance officer career path	**B**
3.2. Identify facts related to the purpose of the munitions maintenance officer Career Field Education and Training Plan (CFETP)	**A**
3.3. Identify facts related to the Enlisted Career Field Education and Training Plan (CFETP)	**A**
3.4. Describe the munitions and missile maintenance training process	**A**
3.5. Identify facts related to the allocation of unit manpower requirements (UPMR/UMD)	**A**
4. RESOURCE MANAGEMENT	
4.1. Identify elements of the resource management system	**A**
4.2. Identify facts related to the functions of contracting services	**A**
5. ENVIRONMENTAL PROTECTION	
5.1. Identify facts related to Environmental Protection Agency (EPA) directives as	**A**

applied to munitions and missile maintenance and the role of the Environmental Protections Agency (EPA) in the safeguarding and production of hazardous waste	
5.2. Identify characteristics of hazardous waste minimization techniques	**A**
5.3. Identify precautions and handling procedures applicable to hazardous chemicals	**A**
5.4. Identify EPA requirements specifically related to nuclear weapons maintenance	**A**
6. LOGISTICS	
6.1. Describe supply procedures pertaining to maintenance.	**B**
6.2. Describe the Depot Level Repairable (DLR) process.	**B**
6.3. Describe the Due In From Maintenance (DIFM) process and the maintenance and supply interface.	**B**
6.4. Describe Custodian Account/Custody Receipts Listing (CA/CRL)	**B**
6.5. Describe the functions of base-level transportation units	**B**
6.6. Describe the functions of base-level logistics plans.	**B**
7. SAFETY	
7.1. Describe principles of Air Force Occupational Safety and Health (AFOSH)	**B**
7.2. Describe principles of Air Force mishap prevention	**B**
7.3. Identify unsafe situations that may be encountered in maintenance	**B**
7.4. Describe the purpose and elements of the AFI 91-1XX series (Weapons Systems Safety Rules)	**B**
7.5. Describe principles of explosive site planning	**B**
7.6. Develop a master storage plan, using proper storage and compatibility	**B**
7.7. Identify requirements for on base transportation of conventional munitions	**B**
7.8. Describe reporting and response procedures for explosive/missile mishaps and high accident potential (HAPs)	**B**
7.9. Describe nuclear Accident Incident Reporting (AID) reporting (Dull Sword)	**B**
8. PROGRAMS	
8.1. Identify facts about the Ground Safety Program	**A**
8.2. Identify facts about the Weapons Safety (Explosive Safety) Program	**A**
8.3. Identify facts about the Nuclear Surety Program	**A**
8.4. Describe the Nuclear Task Certification Program	**A**
8.5. Describe the Personnel Reliability Program	**A**
8.6. Describe the Air Force preventive maintenance programs	**B**
8.7. Identify functions of the Air Force inspection program	**B**
8.8. Identify functions of all phases of Nuclear Surety Inspections (NSI) program	**B**
8.9. Identify types of treaties	**A**

8.10. Describe the Quality Assurance (QA) program	**B**
8.11. Identify objectives of the Foreign Object Damage (FOD) prevention program	**B**
9. ORGANIZATIONS AND FUNCTIONS	**A**
9.1. Define HQ USAF responsibilities	**A**
9.2. Define functions and responsibilities of Air Force Director of Maintenance (ILM)	**A**
9.3. Define functions and responsibilities of the Air Force Director of Nuclear Operations (XONO)	**A**
9.4. Define functions and responsibilities of the Nuclear Weapons Counter-proliferation Agency (NWCA),	**A**
9.5. Define functions and responsibilities of the Defense Threat Reduction Agency (DTRA)	**A**
9.6. Describe the role of USSTRATCOM *EUCOM Unified Commands /*combatant commands/joint commands	**A**
9.7. Define the functions and responsibilities of the MAJCOMs and NAFs	**A**
9.8. Define NATO, USAFE, and MUNSS organization, interface and responsibilities	**A**
9.9. Define functions and responsibilities of Air Logistic Centers (ALC) / Product centers	**A**
9.10. Define the functions and responsibilities of the Air Armament Center (AAC)	**A**
9.11. Define the functions and responsibilities of the Nuclear Weapons Council	**A**
9.12. Define functions and responsibilities of the Air Force Safety Center (AFSC)	**A**
9.13. Define the structural composition of a typical fighter wing	**A**
9.14. Define the structural composition of a typical bomber wing	**A**
9.15. Define the structural composition of a typical ICBM wing	**A**
9.16. Define the role of support agencies within the Mission Support Group	**A**
10. STATUS AND MEASUREMENT	
10.1. Identify facts related to current and projected Maintenance Data Collection (MDC) systems	**B**
10.2. Identify facts related to munitions maintenance indicators	**B**
10.3. Describe the purpose and uses of Status of Resources and Training Systems (SORTS/ART) reports	**B**
10.4. Identify facts related to maintenance scheduling and maintenance priorities	**B**
11. SECURITY	
11.1. Identify types and characteristics of security measures	**A**
11.2. Identify Force Protection Conditions (FPCON) requirements as related to munitions maintenance	**A**

11.3. Describe the use of force by Air Force personnel	**A**
11.4. Identify facts related to the key and lock program	**A**
12. MAINTENANCE PRINCIPLES	
12.1. Identify facts related to general maintenance requirements of ICBMs and munitions	**A**
12.2. Identify facts related to electronic principles	**B**
12.3. Identify facts related to hydraulic principles	**B**
12.4. Describe vehicle issue/turn-in procedures	**A**
12.5. Describe equipment issue/turn-in and processing procedures	**A**
13. MUNITIONS ALLOCATION AND ACCOUNTING	
13.1. Describe the munitions accounting and supply process	**B**
13.2. Describe the duties and responsibilities of the Munitions Accountability Systems Officer (MASO)	**B**
13.3. Describe the functions of automated accountability systems	**B**
13.4. Describe the munitions forecast and allocation process.	**B**
14. CONTINGENCY OPERATIONS	
14.1. Describe the role of the MAJCOMs munitions, missile and space maintenance in the Air and Space Expeditionary Force (AEF)	**A**
14.2. Describe contingency siting of storage and maintenance functions at a bare base	**A**
14.3. Describe the impact of aircraft loading and arm/de-arm clear zones	**A**
14.4. Describe the Air Force and DoD munitions allocation, distribution, and prepositioning processes	**A**
14.5. Describe the transportation process required to support AEF/contingency operations	**A**
14.6. Describe the role of munitions and missile maintenance in OPLANs/CON PLAN to include the 8044	**A**

3.2 **Missile Maintenance Officer Course (MMOC).** Applies to all 21MX accessions assigned to ICBM or space lift maintenance positions.

3.2.1. Missile Applications Focus. MMOC students must understand missile operations in a wartime environment vs. peacetime environment.

3.2.2. MMOC fulfills bridge course requirements for those officers transferring from other maintenance disciplines.

3.2.3 The ICBM task familiarization portion of MMOC is taught at the “little c” level. The goal of the training is not task proficiency, but to guarantee subject and task knowledge to identify critical steps within various maintenance procedures. This is accomplished by emphasizing safety, security, use of technical orders, applicable code components or other critical items during task

performance. Within this level of training, the student must complete the actual task to ensure task comprehension. The instructor must control tasks flow to stress areas of emphasis.

3.2.4. Formal Training. MMOC is AETC formal training. The MMOC training tasks identified in the table below are the formal initial skills training requirements.

3.2.5. Graduate Assessment Survey. Unit supervisors will submit responses to Graduate Assessment Surveys (GAS) and Field Evaluation Questionnaires (FEQ) on officers who complete the formal MMOC at Vandenberg AFB. Respond to GASs and FEQs when received from the technical training group (381 TRG). (Reference AFI 36-2201).

COURSE TRAINING STANDARD (CTS)
MISSILE MAINTENANCE OFFICER COURSE (MMOC)
V3OBR21M1 001

Task, Knowledge, and Proficiency Level

1. ICBM MISSION AND POLICY; DOCTRINE, LAW, AND PROFESSIONAL RESPONSIBILITIES	
1.1. Identify current deployment and characteristics of ICBMs	**A**
1.2. Define the ICBM mission, to include: National Defense Policy, Objectives and Strategy	**A**
1.3. Identify the US National Military Strategy and the US Nuclear Triad	**A**
1.4. Describe the relationships between the space and missile organizations involved in identifying a threat through launching an ICBM counter strike	**A**
2. WEAPONS SYSTEM FAMILIARIZATION	
2.1. Describe the Minuteman III weapon system	**A**
2.2. Describe the layout, characteristics, and function of the missile alert facility (MAF)	**B**
2.3. Describe each missile command and control communications system	**A**
2.4. Describe MAF/LF power systems	**B**
2.5. Describe MAF/LF environmental control systems	**B**
2.6. Describe the layout, characteristics, and function of the launch facility (LF)	**B**
2.7. Describe the layout, characteristics, and function of the missile alert facility (MAF)	**A**
3. ICBM MAINTENANCE OVERVIEW	
3.1. Describe ICBM maintenance directives	**B**
3.2. Identify general maintenance requirements of ICBMs	**B**
3.3. Describe the dispatching process and maintenance limitations	**A**

3.4. Identify ICBM unit, team and work center training program	**B**
3.5. Describe ICBM special programs	**A**
3.6. Perform common hand tool operation	**2c**
4. SECURITY	
4.1. Describe the keys and codes requirements of a missile system	**B**
4.2. Describe ICBM code components	**A**
4.3. Describe missile security command structure	**A**
5. SAFETY	
5.1. Identify site supervision principles and launch facility (LF) safety equipment	**B**
6. ROLES AND RESPONSIBILITIES	
6.1. Define missile combat crew operations responsibilities	**A**
6.2. Describe relationships between maintenance and missile combat crew to accomplish the maintenance fault analysis steps	**A**
7. CONTINGENCY OPERATIONS	
7.1. Explain the purpose of and the procedures to conduct an emergency war order (EWO) generation meeting	**B**
8. ICBM TASK FAMILARIZATION	
8.1. Explain the purpose of and describe the performance steps of the following procedures and operations:	
8.1.1. Launcher support building/launcher equipment building (LSB/LEB) and LF penetration and exit	**c**
8.1.2. LF hostile securing procedures	**c**
8.1.3. LF emergency shutdown procedures	**c**
8.1.4. LF evacuation for EWO launch conditions	**c**
8.1.5. LSB/LEB electrical isolation	**c**
8.1.6. LF tape load and startup	**c**
8.1.7. LF motor generator (MG) checkout	**c**
8.1.8. LF access and security system characteristics	**c**
8.1.9. RS inspection, handling, removal/installation, and checkout of electrical system	**c**
8.1.10. MGS handling, inspection, removal/installation, and checkout of RS to MGS interface cables	**c**
8.1.11. Post boost control system (PBCS) removal/installation	**c**
8.1.12. Operate guided missile maintenance platform	**c**
8.1.13. Connect/disconnect upper umbilical at the missile and D-box	**c**

8.1.14. Install/remove umbilical plug jumper cable assembly	**c**
8.1.15. Operate explosive set circuitry test set	**c**
8.1.16. Operate payload transporter hoist	**c**
8.1.17. Power system verification box (PSVB) checkout and site interface checkout	**c**
8.2. Describe various functions and components of power and environmental control systems	**C**

3.3. **Conventional Munitions Maintenance Officer Course Training (CMOC).** Required for all officers assigned to a munitions maintenance unit, including officers assigned to a munitions flight at an ICBM wing.

3.3.1. Munitions Applications Focus. CMOC students must understand munitions operations in a wartime environment vs. peacetime environment.

3.3.2. CMOC fulfills bridge course requirements for those officers transferring from other maintenance disciplines.

3.3.3. Formal Training. CMOC is AETC formal training. The CMOC course training standard (CTS) lists the formal initial skills training requirements.

3.3.4. Graduate Assessment Survey (GAS)/Field Evaluation Questionnaire (FEQ). Unit supervisors will submit responses to GASs and FEQs on officers who complete formal CMOC training at Sheppard AFB. Respond to GASs and FEQs when received from the technical training group (82 TRG/TTS). (Reference AFI 36-2201).

COURSE TRAINING STANDARD (CTS)
CONVENTIONAL MUNITIONS MAINTENANCE OFFICER (CMOC)
J3OLR/OBR21M1 001
Task, Knowledge, and Proficiency Level

1. MUNITIONS	
1.1. Identify characteristics of active conventional munitions and components	**B**
1.2. Describe the fuzing and firing sequence of unguided munitions	**B**
1.3. Describe the fuzing and firing sequence of guided munitions	**B**
1.4. Describe the fuzing and firing and function of Cluster Munitions	**B**
1.5. Describe launching, fuzing, and firing sequence for all major air-to-ground missile (AGM)	**B**
1.6. Describe launching, fuzing, and firing sequence for all major Air Intercept Missiles (AIM)	**B**
1.7. Identify munitions disposal requirements	**B**
1.8. Describe munitions maintenance activities and the role of munitions inspectors	**B**
1.9. Describe the munitions build-up procedures	**C**
1.10. Identify the proper storage and compatibility requirements of a Master Storage Plan	**C**
1.11. Describe emergency destruction procedures during combat and peacetime operations of munitions	**B**
1.12. Identify functions of munitions systems test equipment	**B**
1.13. Identify facts related to munitions material handling equipment (MMHE)	**B**
1.14. Describe the AGM-86B/C/D and the AGM-129A Weapon Systems	**B**
1.16. Identify the AGM-86B/C/D and AGM-129A general maintenance requirements	**B**
1.17. Describe the processes involved in cruise missile maintenance scheduling	**B**
2. AIRCRAFT ARMAMENT SYSTEMS	
2.1. Identify facts related to aircraft gun systems	**B**
2.2. Identify facts related to aircraft weapons release systems and components	**B**
2.3. Identify facts related to the aircraft loading and standardization process	**B**
3. OPERATIONS	
3.1. Identify facts related to flight line maintenance operations	**B**
3.2. Describe the scheduling and execution of base-level flying operations	**B**
4. SECURITY	
4.1. Identify requirements for resource protection	**B**

4.2. Describe Munitions Storage Area (MSA) and Weapon Storage Area (WSA) security requirements	**C**
4.3. Describe flight line security requirements	**B**
5. CONTINGENCY OPERATIONS	
5.1. Describe the organizations and processes that produce the wing war plan and wing exercise plan	**C**
5.2. Identify facts related to how the wing war plan and wing exercise plan impact munitions maintenance	**C**
5.3. Describe air tasking order (ATO) and fragmentary processes	**C**
5.4. Describe the unit-level design operational capability (DOC) and mission requirements process	**C**
5.5. Describe contingency siting of storage and maintenance functions at a bare base	**C**
5.6. Describe the impact of aircraft loading and arm/de-arm clear zones	**C**
6. SAFETY	
6.1. Identify facts about flight line safety	**C**
6.2. Identify unsafe maintenance operations	**C**
6.3. Describe quantity distance	**C**
6.4. Identify leadership responsibilities with safety	**C**

3.4. **Nuclear Maintenance Officer Course (NMOC).** Required for all officers assigned to a nuclear munitions maintenance unit. It is designed to be a trailer course to both CMOC and MMOC.

3.4.1. Nuclear Weapon Applications Focus. NMOC students must understand nuclear weapons operations in a wartime environment vs. peacetime environment.

3.4.2. Formal Training. NMOC is AETC formal training. The NMOC course training standard (CTS) lists the formal training requirements. This course is a prerequisite course for officers being appointed as nuclear MASOs.

3.4.3. Graduate Assessment Survey (GAS)/Field Evaluation Questionnaire (FEQ). Unit supervisors will submit responses to GASs and FEQs on officers who complete formal NMOC training at Sheppard AFB. Respond to GASs and FEQs when received from the technical training group (82 TRG/TTS). (Reference AFI 36-2201)

COURSE TRAINING STANDARD (CTS)
NUCLEAR MAINTENANCE OFFICER COURSE (NMOC)
J3OLR21M1 001
Task, Knowledge, and Proficiency Level

1. 11N SERIES TECHNICAL ORDERS	
1.1. Define uses of the 11N series technical orders	**B**
2. QUALIFICATIONS/CERTIFICATION TRAINING	
2.1. Describe procedures associated with certification/qualification training for 2W1/2W2 technicians	**C**
2.2. Describe procedures of the quality assurance program	**B**
3. USAF NUCLEAR SURETY PROGRAM	
3.1. Describe the requirements for the protection of nuclear assets	**C**
3.2. Define nuclear safety standards	**C**
3.3. Describe the requirements for nuclear deficiency reporting	**C**
3.4. Develop an accident/incident/deficiency (AID) report	**C**
3.5. Describe the nuclear certification process for equipment, software, vehicles and test equipment	**C**
4. **DOD/ DOE AND AIR FORCE NUCLEAR WEAPONS MANAGEMENT**	
4.1 Define functions and responsibilities of the department of Defense (DoD)/Department of Energy (DOE)	**B**
5. NUCLEAR THEORY, EFFECTS AND COMPONENTS	
5.1. Describe the structures of nuclear physics	**A**
5.2. Describe the effects of nuclear weapons	**A**
5.3. Identify functions of nuclear weapons components	**A**
6. AIR FORCE NUCLEAR WEAPONS	
6.1. Describe physical characteristics of current AF nuclear weapons stockpile.	**B**
7. MAINTENANCE AND INSPECTION OF A TYPICAL NUCLEAR WEAPON	
7.1. Describe nuclear weapons maintenances operations	**C**
8. NUCLEAR WEAPONS MAINTENANCE DOCUMENTATION, RECORDS AND REPORTS	
8.1. Develop maintenance records and reports	**C**
8.2. Document nuclear munitions maintenance actions using applicable forms/documents	**C**
9. NUCLEAR WEAPONS MATING PROCEDURES	
9.1. Describe mating procedures for nuclear weapons	**C**
10. ORGANIZATION AND FUNCTIONS	
10.1. Define duties and responsibilities within a munitions flight	**B**

10.2. Define duties and responsibilities at a munitions support squadron	**B**
11. STORAGE AND MANAGEMENT	
11.1. Describe explosive/nuclear safety requirements associated with nuclear weapons	**C**
11.2. Define fire-fighting guidance	**C**
11.3. Define individual roles and actions during emergency situations (i.e., Broken Arrow)	**C**
12. PHYSICAL SECURITY	
12.1. Describe types of nuclear security	**B**
12.2. Describe the nuclear munitions key and lock control program.	**C**
12.3. Define Weapon Storage and Security System (WS3) requirements.	**C**
13. TRANSPORTATION OF MUNITIONS	
13.1. Describe tactical and logistical movements of nuclear weapons.	**C**
14. NUCLEAR SUPPORT EQUIPMENT	
14.1. Define types and uses of nuclear support equipment	**C**
15. LIFE CYCLE MANAGEMENT - NUCLEAR SPECIFIC	
15.1. Define phases of life cycle management	**A**
16. ENVIRONMENTAL CONCERNS	
16.1. Define Environmental Protection Agency (EPA) requirements that relate to nuclear weapons.	**A**
17. NUCLEAR WEAPONS EMPLOYMENT	
17.1. Describe the USSTRATCOM operational plans	**B**
18. MUNITIONS ACCOUNTABLE SYSTEM OFFICER (MASO)	
18.1. Describe the duties and responsibilities of the Munitions Accountability System Officer (MASO).	**C**
18.2. Describe characteristics of the Location Inventory Listing (LIL).	**C**
18.3. Perform LIL management review.	**C**
18.4. Describe Status Change Reports (SCRs).	**C**
18.5. Develop a SCR	**C**
18.6. Describe Nuclear Ordnance Commodity Material (NOCM) account management.	**C**
18.7. Describe the Special Weapons Information Management (SWIM) and Defense Integration and Management of Nuclear Data Service (DIAMONDS) systems.)	**C**
18.8. Define functions of Permission Action Link (PAL), Active Protection System (APS), and Command Disable System (CDS)	**C**
18.9. Describe PAL operations	**C**
18.10. Describe CDS recode, code check and disablement.	**C**

3.5. **Maintenance Officer Intermediate Course** (MOIC) This course trains company grade officers in preparing them to assume command of a maintenance squadron. This course will provide training for Air Force Officers in Depot Operations, Performance Indicators, Maintenance Planning, Maintenance and Operations Scheduling, Aircraft Forms, Training, Manpower, Budgets, Maintenance Data Analysis, Air Force Occupational Safety and Mishap Prevention, Quality Assurance, Supply/Acquisition Processes, Deployments, Flight line Processes, Aerospace Expeditionary Forces, Munitions, and Armament Systems.

3.5.1. Maintenance Officer Intermediate Course Applications Focus. MOIC students must understand aircraft/missile maintenance and munitions operations in a wartime environment vs. peacetime environment..

3.5.2. Formal Training. The Maintenance Officer Intermediate Course is AETC formal training. The Maintenance Officer Intermediate Course training standard (CTS) lists the formal training requirements.

3.5.3. Graduate Assessment Survey (GAS)/Field Evaluation Questionnaire (FEQ). Unit supervisors will submit responses to GASs and FEQs on officers who complete formal training at Sheppard AFB. Respond to GASs and FEQs when received from the technical training group (82 TRG/TGAV). (Reference AFI 36-2201)

COURSE TRAINING STANDARD
MAINTENANCE OFFICER INTERMEDIATE COURSE (MOIC) CTS
BEHAVIORAL STATEMENTS
(CTS J3OAR21B3 000:)

Task, Knowledge, and Proficiency Level

1. Air Force Material Command (AFMC	
1.1. Describe resources available at the Air Force Materiel Command (AFMC) Single Manager Blue Book On-Line	**A**
1.2. Describe the relationship between and location of Single Managers, System Program Offices, System Program Directors and the Department of Energy	**A**
1.3. Identify depot-level directorates and understand the impact of their operations at the wing level	**A**
1.4. Describe the Contractor Supported Weapons System (CSWS)	**A**
2. **Operations**	**A**
2.1. Identify Maintenance and Operations considerations in fulfilling a Wing's mission.	**A +**
3. **Forms**	
3.1. Describe the various 781 series forms and critical information necessary to perform maintenance management actions	**A**
4. **Training**	
4.1. Identify the purpose and uses of a Special Certification Roster (SCR)	**A**
4.2. Describe requirements for officer and enlisted upgrade training	**A**
5. Personnel Readiness	
5.1. Describe how to read and interpret manpower documents	**A +**
5.2. Describe manpower modeling	
5.3. Describe the purpose and uses of the Status of Resources and Training System (SORTS) and AEF Reporting Tool (ART)	**A +**
6. **Budget**	
6.1. Describe the wing's role in the planning, programming, and execution of their budget.	**A**
6.2. Describe the Program Objective Memorandum (POM) process and how to project for the Future Years Defense Program (FYDP)	**A**
7. **Analysis**	
7.1. Describe the resources Maintenance Management Analysis provides to maintenance	**A +**
7.2. Describe critical maintenance/munitions metrics and data	**A +**
8. **Air Force Occupational Safety & Mishap Prevention**	

8.1. Describe the Environmental Safety Occupational Health Compliance Assessment and Management Program (ESOHCAMP) Inspection	**A**
8.2. Identify safety investigation and report requirements	**A**
8.3. Describe mishap prevention programs	**A**
8.4. Identify facts about the Military Munitions Rule (MMR) and all other legal aspects pertaining to munitions and munitions storage	**A**
8.5. Describe elements of the weapons safety program	**A**
8.6. Identify explosive safety fundamentals and explosive site plan characteristics	**A**
8.7. Describe weapons safety issues in contingency operations	**A +**
9. **Quality Assurance (QA)**	
9.1. Describe how to utilize QA as a management tool	**A**
10. **Supply/Acquisition Processes**	
10.1. Describe contracting applications and basic overview of rules	**A +**
10.2. Describe the roles of the Regional Supply Squadron (RSS) in a contingency operation	**A +**
10.3. Describe munitions allocation and reporting	**A**
10.4. Describe the equipment support system	**A**
10.5. Describe the process for buying/repairing items to support air operations	**A**
10.6. Describe the support relationship among the services and Defense Logistics Agency (DLA) support to the services	**A**
11. **Deployments**	
11.1. Describe selected annexes for a Base Support Plan (BSP)	**A +**
11.2. Describe logistics information systems requirements required for deployment	**A +**
11.3. Describe the impact of shortfalls in the Readiness Spares Package (RSP)	**A +**
11.4. Describe the deployment process	**A +**
11.5. Describe contracting requirements and limitations as related to bed down	**A +**
11.6. Describe deployment tasking process	**A**
11.7. Describe the Tanker/Airlift Logistics Control Element (TALCE) and Lead Mobility Wing (LMW)	**A**
11.8. Describe facts about the impact of host-nation support agreements	**A +**
11.9 Describe the concept and resources available to support AEF rotations	**A +**
11.10. Describe the Centralized Intermediate Repair Facility (CIRF) process	
11.11. Identify key elements to expeditionary site surveys affecting maintenance and flying operations	**A +**
12. **Maintenance Processes**	
12.1. Describe basic generation/re-generation processes	**A +**

13. Process Improvement	**A**
13.1. Describe process improvement initiatives currently used in the field	**A**

+ indicates increased teaching emphasis to be a applied to designated topic

4. The **Air Force Combat Ammunition Center (AFCOMAC).** Offers two courses for continuing development of munitions officers. The Combat Ammunition Planning and Production (CAPP) course is applicable to company grade officers serving in a munitions position. The CAPP course quotas are filled by the MAJCOMs through the Air Force Training Management System (AFTMS) under course code ACC AFCOMAC, PDS code 8RM. The Senior Officer Orientation Course (SOO) is applicable to senior officers (O-4 and above, serving as squadron commanders, logistics/operations group commanders, wing commanders, and headquarters-level staff officers/division chiefs/directors) and civilian equivalents in logistics and operations disciplines. MAJCOM munitions functional managers manage SOO course quotas. TDY expenses for both courses are funded by ACC through 9th Munitions Squadron.

4.1. **CAPP Course** Focus: This course consists of two weeks of academic instruction in a seminar environment, followed by a five-day practical exercise. During the academic portion of the course, the students edit an existing Conventional Munitions Plan (CMP) which they implement during the practical phase. The students are exposed to all the steps and source documents necessary to develop an effective plan. The IRON FLAG practical exercise allows the students to implement their CMP in support of an exercise fragmentary order. Both fighter and bomber scenarios are included.

4.2. SOO Course Focus: This 2-day course provides an orientation in the concepts and techniques involved in combat munitions planning and production. The course takes place during the CAPP course IRON FLAG practical exercise so senior officers can observe and participate in a mass munitions production operation.

4.3. SOO Course Prerequisites: Field grade officers (and civilian equivalents) in logistics and operations disciplines selected at the discretion of the MAJCOM.

5. **Formal Training Course Flow**. All accessed and cross-flow officers will attend the Maintenance Officer Fundamentals Course and depending on initial assignment, they will complete weapon system specific training.

5.1. Initial Missile Assignment. The majority of Missile maintenance officers will attend MMOC prior to arriving at their first base. Any time mission permits after 24-months of duty in the unit, missile maintenance officers should attend the Munitions weapon system specific training at their respective unit to enhance their overall knowledge and prepare them for munitions assignments.

5.2. Initial Munitions Assignment. The majority of Munitions officers will attend CMOC prior to arriving at their first base. As mission permits after 12-months of duty in the unit, munitions officers are eligible to attend AFCOMAC. Any time mission permits after 24-months of duty in the unit, munitions officers should attend the Missile weapon system specific training to enhance their overall knowledge and prepare them for missile assignments.

5.3. Weapon Safety Manager Training. Officers may be selected for weapon safety officer duty after gaining at least 4 years of munitions experience. These officers will attend the weapon safety

manager course at Lackland AFB after being assigned a weapon safety position. 21M officers are eligible to attend the Weapon Safety Manager course after two years of experience.

5.4. After 4 years of experience, officers may be considered for developmental assignments to another Air Force specialty. Officers may also crossflow (change core AFSC) to another AFSC. Crossflows are managed on a case-by-case basis to ensure career field viability.

PART II
Section B - SUPPORT MATERIALS

1. **Support Materials**. The following list of support materials is not all inclusive; however, it covers the most frequently referenced areas.

1.1. Instructions and Directives.

- *AFI- 10-201: Status of Resources and Training System*
- *AFI 10-206: Operational Reporting*
- *AFI 10-2501: Full Spectrum Threat Response (FSTR)Planning and Operations*
- AFJI 11-204: *Operational Procedures for Aircraft Carrying Hazardous Materials*
- AFI 11-299: *Nuclear Airlift Operations*
- AFPD 21-1: *Air & Space Maintenance*
- AFI 21-101: *Aerospace Equipment Maintenance Management*
- AFI 21-102: *Depot Maintenance Management*
- AFI 21-103: *Equipment Inventory, Status and Utilization* Reporting
- AFI 21-104: *Selective Management of Selected Gas Turbine Engines*
- AFI 21-105: *Air & Space Equipment Structural Maintenance*
- AFI 21-108: *Maintenance Management of Space Systems*
- AFI 21-109: *Communications Security (COMSEC) Equipment Maintenance and Maintenance Training*
- AFI 21-110: *Engineering and Technical Services Management and Control*
- AFI 21-114: *Managing Intercontinental Ballistic Missiles Maintenance*
- AFI 21-115: *Production Quality Deficiency Reporting Program*
- AFI 21-116: *Maintenance Management of Communications Electronics*
  AFI 21-*118 Improving Air & Space Equipment Reliability & Maintainability*
- AFPD 21-2: *Nonnuclear And Nuclear Munitions*
- AFI 21-201: *Inspection, Storage, And Maintenance of Non-Nuclear Munitions*
- AFI 21-204: *Nuclear Weapons Procedures*
- AFI 21-211: *Emergency Munitions Support For Joint Operations*
- AFI 21-215: *Conventional Munitions Security Classification Procedures*
- AFI 23-111*: Management of Government Property in Possession of the Air Force*
- AFI 31-101*: Air Force Installation Security Program (FOUO)*
- AFI 31-207: *Arming and Use of Force by Air Force Personnel*
- AFI 32-*1065: Grounding Systems*
- AFI 36-2104: *Nuclear Weapons Personnel Reliability Program*
- AFI 48-148: *Ionizing Radiation Protection*
- AFI 90-201: *Inspector General Activities ~~Air Force Inspection Program~~*
- AFPD 91-1: *Nuclear Weapons and Systems Surety*
- AFPD 91-2: *Safety Programs*

- AFPD 91-3: *Occupational Safety And Health*
- AFOSHSTD 91-100: *Aircraft Flight Line - Ground Operations And Activities*
- AFI 91-101: *Air Force Nuclear Weapons Surety Program*
- AFI 91-102: *Nuclear Weapon System Safety Studies, Operational Safety Reviews, And Safety Rules*
- AFI 91-103: *Air Force Nuclear Safety Certification Program*
- AFI 91-104: *Nuclear Surety Tamper Control And Detection Programs*
- AFI 91-105: *Critical Components*
- AFI 91-106: Unauthorized Launch and Launch Action Studies
- AFI 91-107: *Design, Evaluation, Troubleshooting, and Maintenance Criteria for Nuclear Weapon Systems*
- AFI 91-108: *Air Force Nuclear Weapons Intrinsic Radiation Safety Program*
- AFI 91-111: *Safety Rules For US Strategic Bombers*
- AFI 91-112: *Safety Rules For US Strike Aircraft*
- AFI 91-113: *Safety Rules For Non-US NATO Strike Aircraft*
- AFI 91-114: *Safety Rules For The Intercontinental Ballistic Missile Weapon Systems*
- AFI 91-115: *Safety Rules For Nuclear Logistics Transport By The Prime Nuclear Airlift Force*
- AFI 91-116: *Safety Rules For Storage Of Nuclear Weapons*
- AFMAN 91-119: *Safety Design and Evaluation Criteria for Nuclear Weapon Systems Software*
- AFMAN 91-201: *Explosive Safety Standards*
- AFI 91-202: *The US Air Force Mishap Prevention Program*
- AFI 91-204: *Safety Investigations and Reports*
- AFI 91-301*: Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Standards*

1.2. **AF Space Command Instructions**:

- AFSPCI 21-101: *Intercontinental Ballistic Missile (ICBM) Potential Hazard System*
- AFSPCI 21-0114: *Intercontinental Ballistic Missile Maintenance Management*

1.3. **Conventional Weapon System Technical Orders**

- 00-5-1 Air Force Technical Order System
- 00-5-2 Technical Order Distribution System
- 00-20-1 Aerospace Equipment Maintenance, General Policy and Procedures
- 00-20-5 Aerospace Vehicle Inspection and Documentation
- 00-20-7 Inspection System, Documentation and Status Reporting
- 00-25-172 Ground Servicing of Aircraft and Static Grounding and Bonding
- 11-1-38 Positioning and Tie Down Procedures

- 11A-1-1 Conventional Ammunition Restricted or Suspended
- 11A-1-10 General Instructions – Munitions Serviceability Procedures
- 11A-1-33 Maintenance on Explosive Loaded ACFT
- 11A-1-46 Fire Fighting Guidance
- 11A-1-60 General Instruction – Inspection of Reusable Munitions Containers
- 11A-1-63 Munitions Assembly Procedures
- 1F-1XX-33-1-2 (Loading)
- 1F-1XX-33-1-4 (ICT)
- 35-1-301 USAF Serial Number Registration System for Selected Support Equipment

1.2.2. **ICBM Technical Orders**

- 21M-LGM30F and G series: *Minuteman ICBMs*
- Contractor Manuals: *Space Systems*

1.2.3. **Nuclear Weapons Technical Order***s*

- CJCSM 3150.04C Nuclear Weapons Reports
- DoD 3150.8-M Nuclear Weapons Accident Response Procedures
- DTRA01-99-C-043 SWIM End Users Manual
- 0-1-11N Numerical Index to Joint Nuclear Weapons Publications System
- 0-1-11N-C Numerical Index to Joint Nuclear Weapons Publications (Air Force Supplement)
- Master Nuclear Certification List (https://wwwmil.nwd.kirtland.af.mil/MNCL/)
- 11N-5-1 Unsatisfactory Reports
- 11N-20-7 Nuclear Safety Criteria
- 11N-20-11 General Firefighting Guidance
- 11N-25-1 Department of Defense Nuclear Weapons Technical Inspection System
- 11N-35-7 Inspection Record Card
- 11N-35-50 Weapons Information Report
- 11N-35-51 General Instructions Applicable to Nuclear Weapons
- 11N-45-51 Series Shipment of Nuclear Weapons and Components
- 11N-50-X Series Control procedures and related equipment
- 11N-100-X Series Supply and Management of Nuclear Weapons and Components
- 11N-T-55A Miscellaneous Special Test Equipment
- 11N-H-61C Special Handling Equipment

PART II
Section C – FOLLOW-ON UNIT TRAINING

1. **Follow-on Unit Training.** Follow-on Unit Training is designed to teach new officers local operating procedures, requirements, and common maintenance procedures.

1.1. Concept. Ideally officers should complete AETC formal training prior to unit training. The intent of unit follow-on training is to provide a local training plan to familiarize officers with unit specific procedures and operations. Unit follow-on training consists of the core tasks identified by the unit from the tasks listed below. Officers will not be upgraded to a fully qualified level until satisfactorily completing both AETC formal training, unit follow-on training, and successfully completing the certification briefing to their Group Commander.

1.2. Training plan. The instructional design for unit level training is determined locally. Appropriate lesson plans, support materials, and instructor guidance are the responsibility of each unit. Unit training may include work center and field visits, task observations, classroom instruction, self-study, and other appropriate instructional methods to accomplish training objectives.

1.3. Training period. Unit should structure and conduct training to ensure the officer has completed all training NLT 180 days after beginning local training (Excluding formal training days/TDY's).

1.4. Familiarization Training and Workcenter Visits.

1.4.1. Familiarization training. Officers must be scheduled to observe familiarization tasks from start to finish. Units will ensure pretask, task, and post-task actions are included. Training may be conducted concurrent with team training operations or during routine maintenance operations. Instructors/supervisors will ensure officers understand the fundamentals of each task, why it is performed, associated hazards, and the overall system impact.

1.4.2. Work center visits. Unit training will include work center visits. Visits consist of tours of all maintenance work centers and key support agencies as determined by the commander/supervisor.

1.4.3. Follow-on training is designed to ensure that each officer is provided with the required tasks that help develop their depth in the maintenance career field. Maintenance officer follow-on training is part of career development and training opportunities will take place through-out each officer's career. The MAJCOM will utilize the Qualitative Requirements table (table 4) to establish the level of training required for each officer.

1.4.4. Document the officer's training in accordance with table below. The table is divided into two components. The first is the listing of behavioral statements that apply to local training. This list is not all-inclusive and may be augmented by the unit via local AF Form 797 or similar method. The second component of the table is an administrative tool for units to track the training status of the officer and the knowledge level requirements. The depth of training for each officer will be determined by each MAJCOM with proficiency codes associated to each training task. Training may be anywhere from simple familiarization to in-depth knowledge and task performance. Following established MAJCOM proficiency requirements, each maintenance organization may determine additional levels of training based on professional judgment and the unique requirements

of the particular unit. The MAJCOM and unit knowledge/proficiency requirements will be included as an attachment to the CFETP.

1.4.5 Knowledge requirement levels are established for three periods of maintenance officer development. The first is the Basic (B), in which the 21M officers will enhance their initial training with follow-on training to strength their core maintenance and munitions discipline. Completion of the basic knowledge/proficiency requirements is necessary for Group Commander certification as a 21M3. The second proficiency/knowledge level is Senior. At this level the officer should have a strong maintenance background and be making analytical decisions. This level of proficiency, along with the completion of the senior badge requirements will be required for Group Commander certification for the award of the Senior Maintenance or Missile badge. The third follow-on proficiency category is that of Master. Officers at this level are responsible for being able to make evaluation and key analysis of maintenance operations. This level of proficiency, along with the completion of the Master badge requirements will be required for Group Commander certification for the award of the Master Maintenance or Missile badge. These levels establish the expected level of proficiency each officer should maintain at that point of their career. The format of the table enables supervisors to monitor completion of the various behaviors trained through OJT. The follow-on requirements listed in the CFETP are an important part of each officer's development. The CFETP will be maintained throughout each officer's career.

Unit Follow-on Training Task List	Depth and scope of training determined by MAJCOM and unit proficiency requirements					
	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
1. Training Plan Review						
a. Read, then review CFETP with supervisor						
2. Personnel Administration						
a. Understand local enlisted performance report process						
b. Understand local awards/decorations process						
c. Understand information on the Unit Personnel Management Roster						
d. Understand information on the Unit Manning Document						
3. Financial Management						
a. Understand the Unit budget process						
b. Describe Government Purchase Card (GPC) procedures						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
c. Know different funding sources (fly, non-fly, WRM, etc) and authorized uses by the unit						
4. Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Standards (AFI 91-301)						
a. Understand and complete applicable unit Air Force Occupational, Safety and Health standards and training						
b. Review applicable state, local, and host nation occupational and safety regulations						
5. Safety & Health						
a. Explosives Safety						
(1) Understand local explosives safety site plans and aircraft parking plan						
(2) Know the local explosives safety waivers/deviation/Risk Assessments/RAC Codes						
(3) Complete local explosives safety training program						
(4) Know all local explosives hazards						
(5) Understand Air Force and local mishap reporting procedures (AETC Training)						
b. Know the tenets of the local missile safety program						
c. Nuclear (1) Complete local nuclear safety training (2) Know PRP program (3) Understand the nuclear certification process. Be familiar with unit nuclear certified equipment (4) Know local nuclear surety program (5) Know local key and lock management system (6) Know local security waivers/deviations (7) Review all open Dull Sword and technical deficiency reports						
d. Understand lightning protection program						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
6. Environmental Programs						
a. Complete HAZCOM training						
b. Understand hazardous materials spill response procedures						
c. Be familiar with key state/federal/local munitions and industrial laws/regulations						
d. Be familiar with Military Munitions Rules pertaining to local situations						
e. Be familiar with hazardous chemicals used during and generated by local maintenance practices						
f. Understand the Material Safety Data Sheet (MSDS) Program						
g. Understand HAZMART Pharmacy Process						
(1) Understand low-level radioactive waste storage/disposal procedures						
7. Data Management Requirements						
a. Know applicable data collection and information management systems						
b. Comprehend wing/squadron performance measures						
8. Inspection/Oversight Programs						
a. Understand AF, MAJCOM, NAF, and local inspection systems and applicable inspection intervals						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
9. Organization and Functions						
a. Complete these common work center familiarization tasks when visiting each organization: (1) Sq CC/Flt CC/shop supervisor orientation (2) Tour maintenance/munitions work centers and review key processes						
b. Visit control elements and operations centers						
(1) Review applicable routine and contingency procedures						
(2) Review cannibalization process management						
c. Understand key aspects of contracting						
d. Transportation						
(1) Understand local vehicle operator care responsibilities						
(2) Know unit vehicle allowances/management						
(3) Achieve vehicle licensing						
(4) Understand management of nuclear certified vehicles						
(5) Understand local munitions/explosives transportation requirements						
e. Supply/Fuels						
(1) Understand MICAP reporting/verification procedures						
(2) Comprehend maintenance and supply interfaces						
(3) Understand local equipment allowances						
(4) Understand Supply Difficulty Letters						
(5) Understand how the “contracted out” supply process works						
f. Understand how Civil Engineering supports the unit mission						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
g. Understand how Communications supports the unit mission						
h. Understand how Security Forces supports the unit mission						
i. Understand how the Command Post supports the unit mission						
j. Understand how the Medical Group supports the unit mission						
k. Wing Plans						
(1) Review Memorandums of Agreement (MOA), support, technical agreements, and base support plans						
(2) Understand local exercise and inspection procedures						
l. MAJCOM and NAF						
(1) Understand how NAF and MAJCOM functional POCs interact with the squadron, group and wing (2) Know MAJCOM specific maintenance policy						
m. Fabrication Flight						
(1) Understand Structural Repair Capabilities						
(2) Understand Corrosion Control Capabilities/requirements						
(3) Understand Welding Capabilities						
(a) Explain Air & Space Structural Repair (AFI 21-105)						
(4) Understand Machine Shop						
(5) Non-Destructive Inspection (NDI)						
(a) Observe basic inspection methods						
(b) Observe an in-shop nondestructive inspection						
n. Aerospace Systems Flight						
(1) Understand Fuel Systems						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
(2) Understand Electro-environment capabilities						
(3) Understand Hydraulic/Pneudraulic capabilities						
o. Understand Propulsion (Engine) Flight Capabilities						
p. General Industrial Operations (AFOSH STD 91-66)						
(1) Know applicable support equipment requirements						
10. Support Equipment						
a. Know powered and non-powered support equipment/vehicles used in local maintenance activities						
b. Know tools used in maintenance activities						
(1) Comprehend CTK programs						
(2) Calibration tracking and scheduling procedures						
(3) Special Tools						
c. Understand local test equipment usage/requirements						
11. Weapons/Armament/Flightline Operations						
a. Know aircraft weapons release systems						
(1) Understand Stores management systems						
(2) Understand Two-person control processes						
(3) Know local racks/adapters/pylons						
(4) Be familiar with weapons loading techniques						
b. Know local flightline maintenance operations						
(1) Arm/de-arm area						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
(2) Hot cargo pad						
(3) Aircraft separation requirements						
(4) FOD program						
(5) Explain aircraft parking requirements and clear zones						
(6) Assist in aircraft launch and recovery						
(7) Identify location of cartridges, squibs, initiators on an aircraft						
(8) Know weapons expediter responsibilities and role of weapons personnel in maintaining munitions accountability and reconciliation procedures						
(9) Explain allowable maintenance for weapons loaded aircraft						
(10) Explain hung bomb/hot gun process						
(11) Observe local MDS specific weapons/munitions upload, testing, and download						
c. Weapons Standardization Section						
(1) Be familiar with Wing Weapons Manager duties/responsibilities						
(2) Be familiar with Loading Standardization Crew and Squadron Lead Crew duties/responsibilities						
(3) Be familiar with Load Crew certification/qualification process						
(4) Be familiar with Unit Committed Munitions List (UCML)						
(5) Be familiar with Task assignment list						
(6) Be familiar with concurrent servicing procedures						
d. Be familiar with local in-shop repair requirements for all armament equipment						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
12. Munitions/Missiles						
a. Describe fuzing and firing sequence of weapons required by local unit						
b. Know munitions build-up requirements/plans						
c. Understand local munitions master storage plan and review HAF-A-9901/9902 Master Storage Plan Report						
d. Know federal/state/local and host nation requirements for transporting munitions-to include local hold points requirements						
e. Know munitions flightline delivery requirements						
f. Review applicable maintenance directives, references and instructions (reference: CFETP Part II, Section B), and local supplements/OI's						
g. Know War Consumable Distribution Objectives (WCDO)						
h. Understand keys and lock program						
i. Understand Controlled Item Codes						
j. Understand munitions/missiles hazard class division and compatibility rules						
k. Understand Fire response procedures						
l. Understand Adverse weather procedures						
m. Know munitions/missiles security requirements						
(1) Controlled/Restricted Areas						
(2) DOD Risk Categories						
(3) IDS Requirements						
(4) Classified munitions handling/access						
13. Plans and Scheduling						
a. Review flying schedule to determine munitions/armament requirements						
b. Observe monthly and weekly munitions maintenance and scheduling procedure						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
c. Attend appropriate maintenance production scheduling meetings						
d. Understand priority and periodic maintenance requirements						
14. Munitions Allocation/Accountability						
a. Understand MASO responsibilities						
b. Understand all local munitions supply points and current status/condition						
c. Understand accountability systems						
d. Obtain CAS Access and review key management reports						
e. Understand munitions sortie generation procedures						
f. Know munitions forecasting/scheduling procedures						
15. Mission Requirements						
a. Receive unit mission briefing						
b. Know unit-level DOC/mission requirements process						
c. Know local EWO requirements						
d. Know and understand local requirements to support AEF concept						
e. Know local deployment plans/process						
f. Review unit war and exercise plans						
g. Understand SORTS/ART processes						
16. Nuclear Maintenance						
a. Understand maintenance requirements for all assigned weapons						
(1) Limited Life Component Exchange						
(2) General Maintenance						
(3) Mate/demate to rotary launcher/pylon						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
(4) Warhead mate/demate						
(5) Reentry system (RS) / Reentry Vehicle (RV)recycle						
(6) Parachute exchange						
(7) Key and lock						
(8) Qualification certification program						
(9) PAL code/recode						
(10) WS3 operations						
b. Understand special security and storage requirements						
c. Understand cruise missile test requirements						
d. Review applicable security classification guidance						
e. Understand equipment certification (Master Nuclear Certification List						
f. Know firefighting guidance (T.O. 11N-20-11)						
g. Know logistics movement procedures						
17. ICBM Familiarization						
a. Perform missile alert facility (MAF) and launch facility (LF) site visits						
b. Observe Power Systems Tasks (1) LF (2) MAF						
c. Observe AVE Tasks						
d. Observe ECS Tasks (1) LF (2) MAF						
e. Observe Command and Control and Communications task						
f. Observe Periodic Maintenance (1) LF (2) MAF						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
g. Observe Security System Checkout						
h. Observe Category 1 Movement						
i. Observe Missile Handling Operations						
j. Observe Shop Maintenance						
k. Observe additional tasks as required by local training plan						
l. Tour base trainers and proof load test facility						
m. Complete initial codes training						
n. Understand field dispatching procedures						
o. Describe vehicle issue/turn-in procedures						
p. Describe equipment issue/turn-in procedures and processing for maintenance						
18. Space launch Maintenance Familiarization						
a. Understand Hazardous Chemicals used during vehicle processing						
b. Know unit space environmental compliance program						
c. Understand national space organization and policy						
d. Complete space support course						
e. Complete local contracting/QAE training						
f. Understand operational concept of EELV						
g. Understand Heritage and EELV rocket systems to include:						
(1) Vehicle propulsion						
(2) Liquid/Solid propellant engines						
(3) Thrust Vectoring						
(4) Navigation/Guidance systems						
(5) Booster/Ordnance						
(6) Telemetry						
(7) Flight safety/termination						

	B 21M3 +	S	M	Trainee Initials	Trainer Initials	Date
h. Understand Spacecraft Systems/Components to include:						
(1) Propulsion systems						
(2) Satellite processing						
(3) Payload fairings						
i. Understand vehicle processing facilities/support systems:						
(1) Power systems						
(2) Environmental control systems						
(3) Area warning systems						
(4) Hazardous storage areas						
(5) Umbilical/mobile service tower						
(6) Cranes/winches						
j. Understand non-destructive inspections						
k. Understand processing flows and critical tasks						
l. Understand launch vehicle processing safety and security						
m. Complete Spacelift Course (in development)						
19. Space Acquisition						
a. Complete space support course						
b. Complete SMC business of space course						
c. Complete ACQ 101						
d. Complete LOG 101						
e. Complete LOG 102						
f. Complete other acquisition courses in coordination with SMC training manager						
20.. Space System Sustainment						
a. Complete Space Support Course						
b. Complete QAE Course						

21. Space or Missile Test						
a. Complete ACQ 101						
b. Complete TST 101						
c. Complete Space Support Course for space test						

	Trainee Initials	Supervisor Initials	Date
Requirements for the Senior Certification			
When certification requirements are completed record in Atch 1			
A2.1. Complete two of the following courses: (minimum one for ARC)			
Aircraft Mishap Investigation Course (AMIC)			
Jet Engine Mishap Investigation Course (JMIC)			
Air Force Combat Munitions School (AFCOMAC)			
AFIT Logistics Management Graduate Program (Equals 2 courses)			
Logistics Career Broadening (Equals 2 courses)			
AFIT LOG 032 Reliability-Centered Maintenance for In-Service			
AFIT LOG 131 Industrial Maintenance Management			
AFIT LOG 132 Production Maintenance Management (PMS Internship)			
AFIT LOG 199 Introduction to Logistics			
AFIT LOG 262 Applied Maintenance Management Concepts			
AFIT LOG 299 Combat Logistics			
AFIT LOG 399 Strategic Logistics Management			
AFIT REQ 111 Capabilities Based Operational Requirements Course			
AFIT SYS 170 Maintenance Planning			
AFIT SYS 172 Modification Management Process			
AFIT SYS 173 Product Support Management Planning			
AFIT SYS 350 Reducing Acquisition Response Time			
AFIT SYS 352 Incentives for Reducing Acquisition Response Time			
Advanced Maintenance & Munitions Officer School (AMMOS)			

	Trainee Initials	Supervisor Initials	Date
AMQ100-000 Quality Assurance Evaluator (QAE) Training			
ASAM Advanced Studies in Air Mobility			
AU OSCC On-Scene Commanders' Course			
CWPC Contingency Wartime Planning Course			
DAU ACQ 101, Fundamentals of Systems Acquisition Management			
DAU ACQ 201A Intermediate Systems Acquisition, Part A			
DAU ACQ 201B Intermediate Systems Acquisition, Part B			
DAU LOG 101, Acquisition Logistics Fundamentals			
DAU LOG 102 Systems Sustainment Management Fundamentals			
DAU LOG 201A Intermediate Acquisition Logistics, Part A			
DAU LOG 201B Intermediate Acquisition Logistics, Part B			
DAU LOG 203 Reliability and Maintainability			
DAU LOG 204 Configuration Management			
DAU LOG 235A Performance Based Logistics Part A			
DAU LOG 235B Performance Based Logistics, Part B			
DAU LOG 304 Executive Life Cycle Logistics Management			
DAU PMT 250 Program Management Tools			
DAU PQM 101 Production, Quality and Manufacturing Fundamentals			
DAU PQM 201A Production, Quality and Manufacturing Fundamentals			
DAU PQM 201B Intermediate Production, Quality and Manufacturing, Part B			
DAU TST 101 Intro to Acquisition Workforce Test and Evaluation			
DAU LEAN Introduction to Lean Enterprise Concepts			
DAU LEAN Lean Six Sigma			
DNWS NWOC Nuclear Weapons Orientation Course			
DNWS TNOC Theater Nuclear Operations Course			
DNWS RAC-3 Radiological Accident Response Command & Control Course			

	Trainee Initials	Supervisor Initials	Date
DNWS RETOR Radiological Emergency Team Operations Course			
ISFC Inter-Service Space Fundamentals			
ISIOC Inter-Service Space Intelligence Operations			
NATO School I-11: Nuclear Safety and Security			
DTRA: Nuclear Weapons Orientation Course			
USAFE University, Nuclear College: Nuclear Manager's Course			
USAFE University, Nuclear College: USAFE Munitions Accountable Systems Officer / Nuclear Ordnance Control Material Course			
A2.2. Complete the Maintenance Officer Intermediate Course			
A2.3 Has held any of the following duty positions (N/A for ARC)			
Maintenance Supervisor			
Commander, Aircraft Maintenance Unit			
MAJCOM Staff			
Depot Maintenance			
Commander, Maintenance Operations Flight			
A2.4. Successfully complete 7 years in the specialty (AFI 36-2923)			

Table 5

	Trainee Initials	Supervisor Initials	Date
Requirements for the Master Certification			
When certification requirements are completed record in Attachment 1			
A3.1. Complete one of the following:			
AFIT LOG 399, Strategic Logistic Management			
AFIT LOG 499, Logistic Exec Development Seminar			
DAU LOG 201, Intermediate Acquisition Management			
DAU LOG 203, Reliability and Maintainability			
DAU LOG 204, Configuration Management			
DAU LOG 205, Provisioning			
DAU LEAN, Introduction to Lean Enterprise Concepts			
DAU LEAN, Lean Six Sigma			
Logistics Career Broadening			
A3.2. Has held any two of the following duty positions (One for ARC)			
MOFC/MMOC/CMOC/NMOC/AMMOS Instructor Duty			
Command			
NAF, MAJCOM, or Air Staff			

	Trainee Initials	Supervisor Initials	Date
Depot Level Maintenance			
Acquisition Duty			
Joint Logistics Duty			
Deputy Maintenance/Logistics Group Commander			
Other Logistics AFSC (21A or 21R)			
A3.3. Successful completion of 15 years in the specialty (AFI 36-2923)			

Table 6

PART II
Section D - TRAINING COURSE INDEX

1. **Purpose**. This section of CFETP identifies training courses available in the munitions and missile maintenance officer specialty and shows how the courses are used by each MAJCOM in their career field training programs. Career field functional managers and training management personnel should use this information to plan, develop, and update their respective MAJCOM continuation training program. The Education and Training Course Announcements (ETCA) contains more detailed course information. The ETCA Internet address is as follows**:** **https://etca.randolph.af.mil; ** Refer to this site for information and course description**.**

2. **Air Force In-Residence Courses.**

Air Force In-Residence Courses.

COURSE NUMBER	TITLE	LOCATION	AFSC AWARDING
J3OQR21M1 001	Maintenance Officer Fundamental Course	Sheppard AFB	
V3OBR21M1-000	Missile Maintenance Officer Course	Vandenberg	YES
J3OBR21M1 001/ J3OLR21M1 001	Munitions Maintenance Officer Course	Sheppard AFB	YES
J3OLR21M1C 001	Nuclear Maintenance Officer Course	Sheppard AFB	
J30AR21B3 000	Maintenance Officer Intermediate Course	Sheppard AFB	
WCIP05A	Air Force Technical Order System (Advanced)	Kirtland AFB	
L3AZR2W071 001	Weapons Safety	Lackland AFB	
	Advanced Maintenance & Munitions Officer School (AMMOS)		
	Mishap Investigation Non-Aviation Course	Kirtland AFB	

3. **Air Force Institute of Technology. (AFIT):** AFIT is the Air Force's premier institution of professional and graduate education in acquisition, logistics, engineering, and management.

3.1. The AFIT Logistics Management Graduate Program provides a broad and diverse curriculum equipping students with the skills required to perform most effectively as middle and upper managers in any of a variety of USAF and DoD logistics positions. Satisfactory completion of the graduate curriculum leads to award of a Master of Science degree in logistics management. Course duration is 15 months. A bachelor's degree in business administration, transportation, economics,

the physical sciences, industrial engineering, or a degree from a service academy is required. As a minimum, the officer must have completed college algebra with a grade of C or higher. Intermediate algebra does not satisfy this requirement. Applicants must satisfactorily complete either the aptitude test for the Graduate Record Examination (GRE) or Graduate Management Aptitude Test (GMAT) before a letter of eligibility will be issued.

3.2. AFIT's School of Systems and Logistics (AFIT/LS) is the Air Force's sole provider of professional continuing education (PCE) courses in the areas of Logistics, Acquisition, and Software Engineering. LS offers courses, executive seminars, and tailored workshops that transcends specialty boundaries. Optional courses available for the 21MX qualification/certification provide the professional tools needed for effective combat support and attendance is highly encouraged. Contact your local education and training office for the latest information on scheduled course offerings. Contact LSA to set-up out-of-cycle requirements DSN: 785-7777 extension 3107 or **http://ls.afit.edu.** Course descriptions are listed at **http://ls.afit.edu.**.

COURSE NUMBER	TITLE	LOCATION
WLOG 131	Industrial Maintenance Management Course	Wright-Patterson AFB
WLOG 262	Applied Maintenance Management Concepts Course	Wright-Patterson AFB
WLOG 199	Introduction to Logistics Course Focus	Wright-Patterson AFB
WLOG 299	Combat Logistics	Wright-Patterson AFB
WLOG 399	Strategic Logistics Management	Wright-Patterson AFB
WLOG 499	Executive Management	Wright-Patterson AFB
WLOG 032	Reliability Centered Maintenance	Wright-Patterson AFB
LOG 262	Applied Maintenance Management Concepts	Wright-Patterson AFB
LOG 299	Combat Logistics	Wright-Patterson AFB
LOG 399	Strategic Logistics Management	Wright-Patterson AFB
REQ 111	Capabilities Based Operational Requirements Course	Wright-Patterson AFB

SYS 170	Maintenance Planning	Wright-Patterson AFB
SYS 172	Modification Management Process	Wright-Patterson AFB
SYS 173	Product Support Management Planning	Wright-Patterson AFB
SYS 350	Reducing Acquisition Response Time	Wright-Patterson AFB
SYS 352	Incentives for Reducing Acquisition Response Time	Wright-Patterson AFB

4. **Field Training Detachment Courses.** There are no TD courses available.

5. **Extension Course Institute (ECI) Courses.** There are no ECI courses available.

6. **Exportable Courses.** There are no exportable courses available.

7. **Follow-on MAJCOM/Unit Courses.**

7.1 USAFE Nuclear College: For information and course descriptions go to the Nuclear College web-site (https://wwwmil.usafe.af.mil/direct/lg/lgw/Training%20Home/nucc.html)

COURSE NUMBER	TITLE	LOCATION
USAFE NMC	USAFE Nuclear Managers Course	Ramstein AB, GE
USAFE MUNSS	USAFE MUNSS Course	Ramstein AB, GE
USAFE SLNC	USAFE Senior Leaders Nuclear Course	Ramstein AB, GE
USAFE EETC	USAFE Exercise Evaluation Team Course	Ramstein AB, GE
USAFE NOCM	USAFE Munitions Accountable Systems Officer / Nuclear Ordnance Control Material Course.	Ramstein AB, GE

8. Department of Defense Courses

8.1. Defense Acquisition University (DAU): DAU coordinates the acquisition education and training programs to meet the training requirements of approximately 132, 000 DoD Acquisition, Technology and Logistics (AT&L) workforce personnel. As the DoD corporate university for acquisition education, the DAU sponsors curriculum and instructor training to provide a full range of basic, intermediate, advanced, and assignment-specific courses to support the career goals and professional development of the AT&L Workforce. Information and course descriptions can be found at http://www.dau.mil/

COURSE NUMBER	TITLE	LOCATION
DAU ACQ 101	Fundamentals of Systems Acquisition Management	On-Line
DAU ACQ 201A	Intermediate Systems Acquisition, Part A	DSMC, FT. BELVOIR CAMPUS
DAU ACQ 201B	Intermediate Systems Acquisition, Part B	DSMC, FT. BELVOIR CAMPUS
DAU LOG 101	Acquisition Logistics Fundamentals	On-Line
DAU LOG 102	Systems Sustainment Management Fundamentals	DSMC, FT. BELVOIR CAMPUS
DAU LOG 201A	Intermediate Acquisition Logistics, Part A	DSMC, FT. BELVOIR CAMPUS
DAU LOG 201B	Intermediate Acquisition Logistics, Part B	DSMC, FT. BELVOIR CAMPUS
DAU LOG 203	Reliability and Maintainability	On-Line
DAU LOG 204	Configuration Management	DSMC, FT. BELVOIR CAMPUS
DAU LOG 235A	Performance Based Logistics, Part A	DSMC, FT. BELVOIR CAMPUS
DAU LOG 235B	Performance Based Logistics, Part B	DSMC, FT. BELVOIR CAMPUS
DAU LOG 304	Executive Life Cycle Logistics Management	DSMC, FT. BELVOIR CAMPUS
DAU PMT 250	Program Management Tools	DSMC, FT. BELVOIR

		CAMPUS
DAU PQM 101	Production, Quality and Manufacturing Fundamentals	On-Line
DAU PQM 201A	Intermediate Production, Quality and Manufacturing, Part A	DSMC, FT. BELVOIR CAMPUS
DAU PQM 201B	Intermediate Production, Quality and Manufacturing, Part B	DSMC, FT. BELVOIR CAMPUS
DAU TST 101	Intro to Acquisition Workforce Test and Evaluation	On-Line
DAU LEAN	Introduction to Lean Enterprise Concepts	On-Line
DAU LEAN	Lean Six Sigma	On-Line

8.2 Defense Nuclear Weapons School (DNWS): DNWS provides nuclear weapons core competencies and chemical, biological, radiological, nuclear, and high explosive (CBRNE) response training to DoD, other Federal and State Agencies, and National Laboratory personnel. The DNWS provides the warfighter with topical information relating to United States nuclear weapons, weapons of mass destruction (WMD)/CBRNE, proliferation issues, nuclear accident response and radiological and health environmental issues. Information and course descriptions can be found at https://dnws.ao.dtra.mil/

COURSE NUMBER	TITLE	LOCATION
DNWS NWOC	Nuclear Weapons Orientation Course	DNWS, Kirtland AFB, NM
DNWS TNOC	Theater Nuclear Operations Course	DNWS, Kirtland AFB, NM
DNWS RAC-3	Radiological Accident Response Command & Control Course	DNWS, Kirtland AFB, NM
DNWS RETOR	Radiological Emergency Team Operations Course	DNWS, Kirtland AFB, NM

PART II
Section E - MAJCOM UNIQUE PROCEDURES

None Identified

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

DONALD J. WETEKAM, Lt Gen, USAF
DCS/Installations and Logistics

Attachment 1

Training Completion Certification

The following table certifies which Munitions and Missile Maintenance Officer training modules have been completed and the certification levels attained by

_____ .
(Pencil entry – Rank, Name)

Course	Certification
Munitions & Missile Maintenance Officer Fundamentals Course (MOFC)- CRS # J3OQR21M1 001	_____, _____, USAF ~~362nd~~ 360th Training Squadron (AETC)
Munitions & Missile Maintenance Officer Fundamentals Course (MOFC) and Unit Follow-on Training	_____, _____, USAF Commander, _____ Squadron
Conventional Munitions Officer Course (CMOC) CRS # J3OBR21M1 001/J3OLR21M1 001	_____, _____, USAF ~~362nd~~ 360th Training Squadron (AETC)
Conventional Munitions Officer Course (CMOC) and Unit Follow on Training	_____, _____, USAF Commander, _____ Squadron
Missile Maintenance Officer Course (MMOC) CRS # V3OBR21M1 001	_____, _____, USAF 532nd Training Squadron (AETC)
Missile Maintenance Officer Training and Unit Follow-on Training	_____, _____, USAF Commander, _____ Squadron

Nuclear Maintenance Officer Course (NMOC) CRS # J3OLR21M1C 003	_____, _____, USAF 360th Training Squadron (AETC)
Nuclear Maintenance Officer Course and Unit Follow-on Training	_____, _____, USAF Commander, _____ Squadron
Weapons Safety Manager Training Course #	_____, _____, USAF _____Training Squadron (AETC)
21M3 Certification	Group Commander's Signature Block
Senior Certification	Group Commander's Signature Block
Master Certification	Group Commander's Signature Block